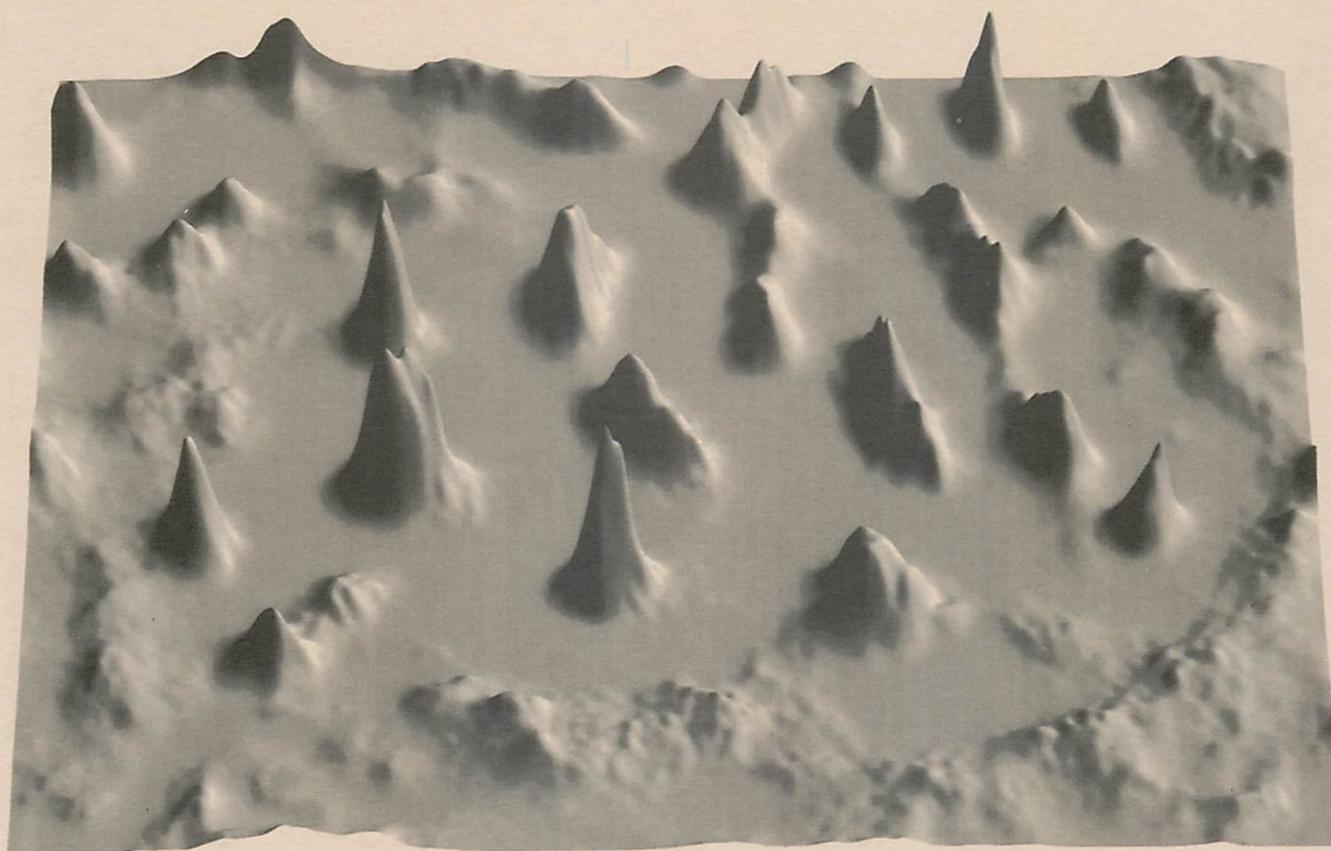


ATLAS OF SHALLOW MISSISSIPPI SALT DOMES

Stanley C. Thieling
Jack S. Moody



BULLETIN 131

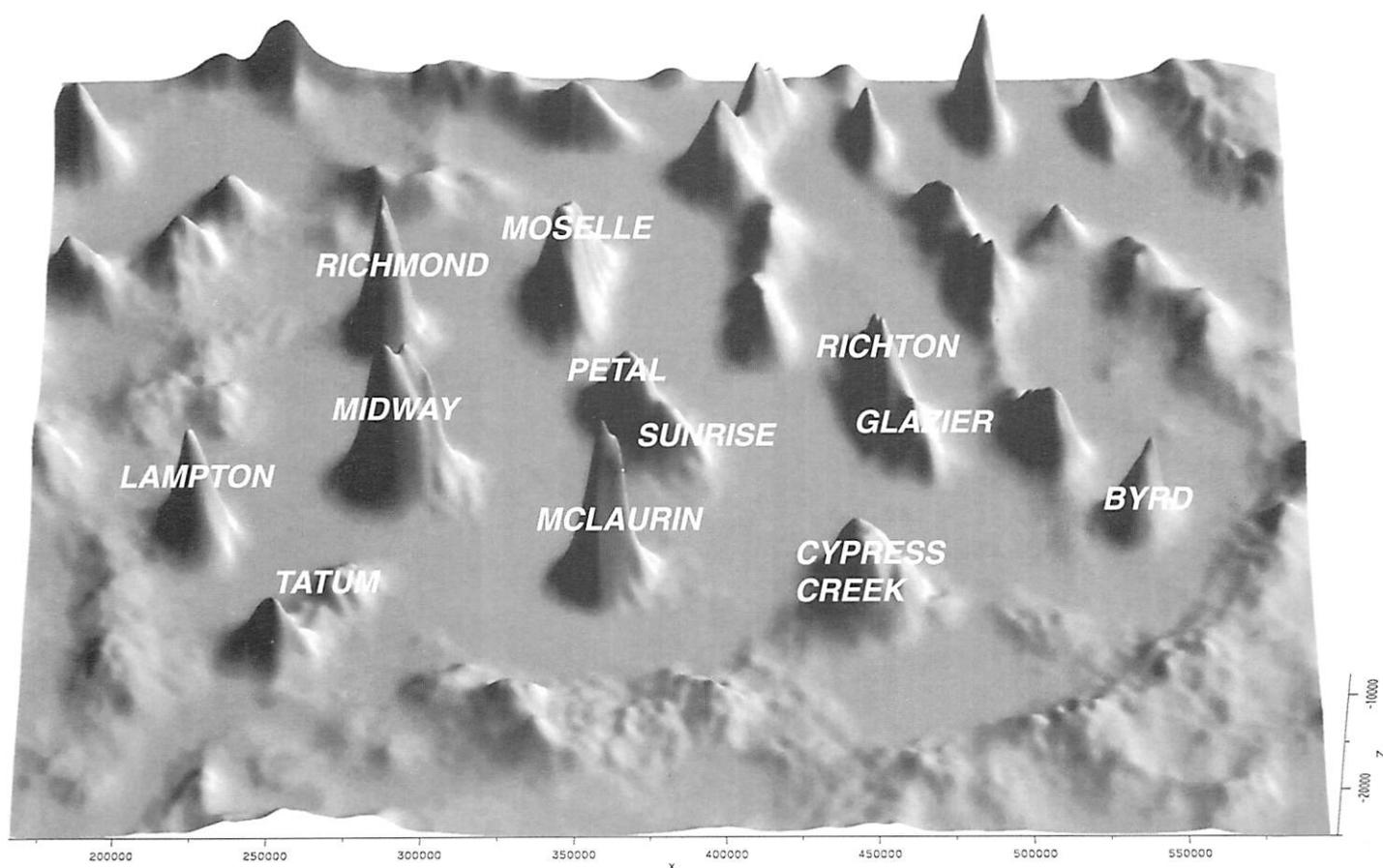
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF GEOLOGY

S. Cragin Knox
Director

Jackson, Mississippi
1997

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COVER: Shaded relief image of salt features in the Mississippi Interior Salt Basin. Structures are interpreted from a 3D inversion process applied to high resolution gravity data. View is from the south. Image courtesy of Earthfield Technology, Inc., Houston, Texas. Gravity data provided by Gravity Map Service, Richardson, Texas.

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March 30, 1997

Mr. Alvis Hunt, Chairman,
and Members of the Commission
on Environmental Quality

Commissioners:

The Office of Geology is pleased to transmit to you Bulletin 131, titled "Atlas of Shallow Mississippi Salt Domes," co-authored by Stanley C. Thieling and Jack S. Moody.

Bulletin 131 will be a valuable reference work for the oil and gas exploration industry as well as other industries which may explore and utilize these geologic features in the future, such as hydrocarbon product storage and transmission, mining, and power generation. Much of the data included is being published in the public domain for the first time, and will add significantly to the general knowledge of Mississippi's salt domes.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "S. Cragin Knox", written over a horizontal line.

S. Cragin Knox
Director and State Geologist

ATLAS OF SHALLOW MISSISSIPPI SALT DOMES

CONTENTS

Domes.....	5
Tables.....	6
Figures.....	6
Introduction.....	9
Regional Setting.....	9
Unproven and Unknown Domes.....	9
Uses.....	9
Terminology.....	10
Acknowledgments.....	11
General References.....	11
Note About References.....	11
Appendix.....	328

DOMES

Allen.....	16
Arm.....	22
Bothwell.....	27
Brownsville.....	30
Bruinsburg.....	36
Byrd.....	45
Carmichael.....	52
Carson.....	55
Caseyville.....	59
Centerville.....	63
County Line.....	69
Cypress Creek.....	73
D'Lo.....	93
Dont.....	101
Dry Creek.....	108
Eagle Bend.....	113
Edwards.....	118
Eminence.....	122
Galloway.....	128
Glass.....	131
Grange.....	137
Halifax.....	140
Hazlehurst.....	144
Hervey.....	148
Hubbard.....	151
Kings.....	154
Kola.....	162
Lampton.....	166
Learned.....	178
Leedo.....	182
McBride.....	186
McLaurin.....	191
Midway.....	194
Monticello.....	198
Moselle.....	201
New Home.....	206
Newman.....	212
Oakley.....	215
Oak Ridge.....	226
Oakvale.....	230

Petal	235
Prentiss	245
Raleigh.....	249
Richmond	252
Richton	256
Ruth	279
Sardis Church	285
Sunrise	292
Tatum	296
Utica	312
Vicksburg.....	315
Wesson.....	318
Zion Hill	321
Combined References.....	324

TABLES

1. Summary of data for 100 & 200 series shallow borings at the Cypress Creek Dome	79-82
2. Summary of data for 200 & 300 series shallow borings at the Richton Dome	265-268

FIGURES

1. Mississippi Salt Basin gas pipelines and shallow salt domes	12
2. Mississippi Salt Basin oil pipelines and shallow salt domes.....	13
3. Stratigraphic column of Mississippi	14
4. Allen Dome base map	18
5. Allen Dome area Bouguer gravity map	19
6. Allen Dome area residual gravity map	20
7. Allen Dome topographic map	21
8. Arm Dome base map.....	25
9. Arm Dome topographic map.....	26
10. Bothwell Dome base map	28
11. Bothwell Dome topographic map	29
12. Brownsville Dome base map	34
13. Brownsville Dome topographic map	35
14. Bruinsburg Dome 1:24,000 base map.....	42
15. Bruinsburg Dome 1:12,000 base map.....	43
16. Bruinsburg Dome topographic map.....	44
17. Byrd Dome base map.....	48
18. Byrd Dome structure maps	49
19. Byrd Dome structural cross section	50
20. Byrd Dome topographic map.....	51
21. Carmichael Dome base map	53
22. Carmichael Dome topographic map	54
23. Carson Dome base map	57
24. Carson Dome topographic map	58
25. Caseyville Dome base map.....	61
26. Caseyville Dome topographic map.....	62
27. Centerville Dome base map	65
28. Free State Field structure map	66
29. Centerville Dome interpreted seismic line.....	67
30. Centerville Dome topographic map	68
31. County Line Dome base map.....	71
32. County Line Dome topographic map.....	72
33. Cypress Creek Dome 1:24,000 base map, north half	83
34. Cypress Creek Dome 1:24,000 base map, south half	84
35. Cypress Creek Dome 1:48,000 base map	85
36. Cypress Creek Dome top of cap rock structure map.....	86

37. Cypress Creek Dome top of salt structure map	87
38. Cypress Creek Dome geologic section A-A'	88
39. Cypress Creek Dome geologic section B-B'	89
40. Cypress Creek Dome 1:24,000 topographic map, north half	90
41. Cypress Creek Dome 1:24,000 topographic map, south half	91
42. Cypress Creek Dome 1:48,000 topographic map	92
43. D'Lo Dome base map	96
44. D'Lo Dome interpreted seismic line	97
45. D'Lo Dome seismic line	98
46. D'Lo Dome seismic line with salt outline	99
47. D'Lo Dome topographic map	100
48. Dont Dome base map	105
49. Leaf River Field structure map	106
50. Dont Dome topographic map	107
51. Dry Creek Dome base map	110
52. Dry Creek Dome Field structure map	111
53. Dry Creek Dome topographic map	112
54. Eagle Bend Dome base map	116
55. Eagle Bend Dome topographic map	117
56. Edwards Dome base map	120
57. Edwards Dome topographic map	121
58. Eminence Dome base map	126
59. Eminence Dome topographic map	127
60. Galloway Dome base map	129
61. Galloway Dome topographic map	130
62. Glass Dome base map	132
63. Glass Dome area Bouguer gravity map	133
64. Glass Dome area shallower residual gravity map	134
65. Glass Dome area deeper residual gravity map	135
66. Glass Dome topographic map	136
67. Grange Dome base map	138
68. Grange Dome topographic map	139
69. Halifax Dome base map	142
70. Halifax Dome topographic map	143
71. Hazlehurst Dome base map	146
72. Hazlehurst Dome topographic map	147
73. Hervey Dome base map	149
74. Hervey Dome topographic map	150
75. Hubbard Dome base map	152
76. Hubbard Dome topographic map	153
77. Kings Dome base map	160
78. Kings Dome topographic map	161
79. Kola Dome base map	164
80. Kola Dome topographic map	165
81. Lampton Dome base map 1:24,000	170
82. Lampton Dome base map 1:48,000	171
83. Lampton Dome cap rock structure map	172
84. Lampton Dome salt structure map	173
85. Lampton Dome cross section A-A'	174
86. Lampton Dome cross section B-B'	175
87. Lampton Dome topographic map 1:24,000	176
88. Lampton Dome topographic map 1:48,000	177
89. Learned Dome base map	180
90. Learned Dome topographic map	181
91. Leedo Dome base map	184
92. Leedo Dome topographic map	185
93. McBride Dome base map	189
94. McBride Dome topographic map	190
95. McLaurin Dome base map	192

96. McLaurin Dome topographic map.....	193
97. Midway Dome base map	196
98. Midway Dome topographic map	197
99. Monticello Dome base map	199
100. Monticello Dome topographic map	200
101. Moselle Dome base map	203
102. Moselle Dome area structure map	204
103. Moselle Dome topographic map.....	205
104. New Home Dome base map	209
105. New Home Dome area Bouguer gravity map.....	210
106. New Home Dome topographic map.....	211
107. Newman Dome base map	213
108. Newman Dome topographic map	214
109. Oakley Dome base map	223
110. Oakley Dome area structure map.....	224
111. Oakley Dome topographic map.....	225
112. Oak Ridge Dome base map.....	228
113. Oak Ridge Dome topographic map.....	229
114. Oakvale Dome base map.....	233
115. Oakvale Dome topographic map.....	234
116. Petal Dome base map	243
117. Petal Dome topographic map	244
118. Prentiss Dome base map	247
119. Prentiss Dome topographic map	248
120. Raleigh Dome base map	250
121. Raleigh Dome topographic map	251
122. Richmond Dome base map	253
123. Richmond Dome area Bouguer gravity map	254
124. Richmond Dome topographic map	255
125. Richton Dome 1:24,000 base map, north half	269
126. Richton Dome 1:24,000 base map, south half	270
127. Richton Dome 1:48,000 base map	271
128. Richton Dome structure contours top of salt model	272
129. Richton Dome area of residual used for modeling	273
130. Richton Dome salt model cross section A-A'	274
131. Richton Dome salt model cross section B-B'	275
132. Richton Dome 1:24,000 topographic map, north half	276
133. Richton Dome 1:24,000 topographic map, south half	277
134. Richton Dome 1:48,000 topographic map	278
135. Ruth Dome base map	282
136. Ruth Dome area Bouguer gravity map	283
137. Ruth Dome topographic map	284
138. Sardis Church Dome base map	287
139. Sardis Church Dome area Bouguer gravity map	288
140. Sardis Church Dome area shallower residual gravity map.....	289
141. Sardis Church Dome area deeper residual gravity map.....	290
142. Sardis Church Dome topographic map	291
143. Sunrise Dome base map	294
144. Sunrise Dome topographic map	295
145. Tatum Dome base map.....	308
146. Tatum Dome section A-A'	309
147. Tatum Dome section B-B'	310
148. Tatum Dome topographic map	311
149. Utica Dome base map	313
150. Utica Dome topographic map	314
151. Vicksburg Dome base map.....	316
152. Vicksburg Dome topographic map.....	317
153. Wesson Dome base map.....	319
154. Wesson Dome topographic map.....	320
155. Zion Hill Dome base map.....	322
156. Zion Hill Dome topographic map.....	323

Stanley C. Thieling
Jack S. Moody

INTRODUCTION

South-central Mississippi has fifty-three known shallow salt domes, with crests above 6,000 feet. This publication lists all known data on these unique geologic features, with the obvious exception of confidential, proprietary information which is primarily the property of petroleum exploration companies.

This publication was conceived as a result of recent increased interest in the shallow salt domes of Mississippi. A renewed interest in oil and gas exploration along the domal flanks is largely due to improvements in seismic acquisition and processing, especially 3D. The resulting accuracy improvement in salt and sediment structure imaging has resulted in better placement of exploratory wells, and numerous new field discoveries. An increased interest in utilizing salt domes for their potential as storage sites is also apparent. Mississippi currently has two domes with cavern storage facilities operated by the petroleum industry. One of these was the nation's first salt solution cavity specifically created for natural gas storage. The authors feel that the information compiled in this publication is a useful contribution toward the increased utilization of an under-utilized, valuable resource – Mississippi's shallow salt domes.

It is not intended that this atlas should include a discussion on the origin of salt basins and salt domes, or on the tectonics, configuration, composition, or growth history of salt domes. These specialized topics are discussed in several of the references, especially Halbouty (1979), Jackson and Seni (1984), Jackson and Vendeville (1994), Ingram (1991), and Taylor (1995).

REGIONAL SETTING

The Mississippi Interior Salt Basin trends, with an average width of over 125 miles, west-northwest to east-southeast across south-central Mississippi from northeastern Louisiana to southwestern Alabama. This salt basin, also known as the Mississippi salt-diapir province of Jackson and Seni (1984), and the east central basin of Halbouty (1979), is the largest of three Mesozoic salt basins on the north flank of the Gulf Coastal Plain. Salt basin stratigraphy is shown in Figure 3.

UNPROVEN AND UNKNOWN DOMES

Bothwell, Grange, and Zion Hill domes are undrilled, but have been well known to the petroleum industry for many years. They are visible on gravity data, and are seen on seismic lines that cross them. There are four other shallow, unnamed domes known to the authors, which are not listed in this atlas for confidentiality reasons. Two of these four domes have no expression on several different Bouguer gravity maps available to the authors, and two have only very slight expression. All four are apparent on seismic. We consider it very likely that there are other, possibly numerous, presently unknown domes in the Mississippi Interior Salt Basin.

USES

Very few oil or gas fields have been found on the crest of any of Mississippi's shallow salt domes. None of those found has been significant, and with the crest of nearly all known domes drilled, no commercial hydrocarbon deposits are expected. Oil and gas exploration on the domal flanks constitutes a play, active since 1985, that began with the discovery of West Raymond Field at Oakley Dome. Due primarily to drilling problems associated with relatively steeply dipping beds, occasionally short well lifespan, and less than anticipated reserves on some wells, this play has extended to fewer than half of Mississippi's shallow salt domes. Production has been found in reservoirs ranging in age from the Lower Cretaceous Paluxy Formation to the Upper Jurassic Cotton Valley Formation. Production data on these fields are listed with each dome.

The petroleum industry stores liquefied petroleum gas (LPG) and compressed natural gas in caverns dissolved in the upper portions of Eminence and Petal domes. The first storage cavern of this type in Mississippi was completed at Petal Dome in 1951. Cavern volumes are listed in tables with each dome.

Richton Dome was proposed for inclusion in the Strategic Petroleum Reserve (SPR), a stockpile of crude oil designed for use in a national emergency when supplies from outside of the U. S. could be curtailed. Presently the SPR has capacity of 750 million barrels of oil, although the current inventory is approximately 600 million barrels. Richton Dome was proposed to be included in an expansion to 1 billion barrels capacity for the entire system. All SPR storage sites are currently in salt domes in Texas and Louisiana. As of this writing the expansion project has been abandoned.

McIntosh Dome, the only salt dome in Alabama, is used by the Alabama electric cooperative for compressed air energy storage. Utilizing excess generating capacity at night, air is compressed to as much as 1,100 pounds per square inch and stored in a cavern with a capacity of 19 million cubic feet. During daytime peak demand periods the compressed air is released, and accelerated by heating it up to 1,600 degrees, driving a turbine to generate electricity.

Tatum Dome was used by the Atomic Energy Commission for nuclear testing in the 1960s. Two nuclear events and two methane and oxygen explosions were conducted as part of a program designed to learn more about detection of underground nuclear explosions. This testing is discussed in more detail under Tatum Dome.

No salt domes in Mississippi have been utilized for either underground or solution mining of salt. Bruinsburg Dome was considered for mining in the early 1960s, but was never developed. At least one salt company maintains a leasehold position in Mississippi. Salt brine produced by the solution of salt for storage caverns at Petal and Eminence domes was injected into underground, saltwater-bearing formations.

Other suggested uses for salt domes include storage of other petroleum products and petroleum based fuels,

methane-producing urban trash, toxic industrial waste, and nuclear waste.

TERMINOLOGY

Numerous conventions and abbreviations used throughout this atlas are explained below.

Text

When describing well and dome locations, T is used for township and R is used for range in the U. S. Public Land Survey System. FSL, FNL, FEL, and FWL are abbreviations for from the south, north, east or west line, respectively, of the referred to portion of the section. Likewise SNL, NSL, EWL, and WEL are abbreviations for south of the north line, north of the south line, east of the west line, and west of the east line. NW/4, SE/4, NE/4, and SW/4 are abbreviations for northwest quarter, etc., and NW/c or NW/corner, by this convention, refers to the northwest corner of a section or partial section.

USGS or U. S. G. S. refers to the United States Geological Survey.

The general geophysical data used for domal descriptions in the general data section of each dome is taken from maps in the files of the Office of Geology, for which no right of publication is owned.

The estimated size and shape of each dome shown on the individual maps is taken from various sources and is an estimate only.

The location shown for each dome is approximate, and should not be used other than as a beginning for additional geophysical studies or surveys by the user.

Frequently wells will have more than one name before they are plugged. The latest, or current, name is given with earlier names shown in parentheses. Various records occasionally have slightly different well names, often variants of the correct name. This is more frequent with older wells, especially those drilled in the 1920s and 1930s.

The API well number is a unique identifying number assigned by the Mississippi State Oil and Gas Board for the American Petroleum Institute (API). An API well number is assigned to each well regulated by the Mississippi State Oil and Gas Board, which has regulatory authority over all wells intended to penetrate the base of fresh water. The API well number consists of three series of two or more numbers, such as 23-111-00121. The first two numbers, 23, are the state code for Mississippi. The second three numbers, are the code for a specific county in Mississippi. The final set of five numbers are assigned sequentially to wells within each county. Since late 1994 eleventh and twelfth digits have been added to show intentionally drilled directional and horizontal wells; and thirteenth and fourteenth digits for true entries of older wells.

Elevation is always given in feet above mean sea level. GL is the abbreviation for ground level. DF is the derrick or drilling floor, KB is the kelly bushing, and RT is the rotary table. The derrick floor, rotary table and kelly bushing refer to parts of a drilling rig through which geophysical logging tools are lowered and are easily referred to by the logging engineer. Elevation numbers are coded as follows: 123' ?, means it is not known what the measurement is in relation to, either GL, DF, KB, or RT; any information source is given in parentheses when there are several sources and elevations that disagree. When the elevation is

determined by plotting the location of the well on a topographic map, the words, topographic map, in parentheses, are intended to notify the reader that the accuracy of this information is limited, not only by the inherent inaccuracy of trying to plot and read a point on a topographic map, but also, and often more importantly, because different surveyors build up their own unique reference data and may plot a point slightly differently than other surveyors. It also was not unknown, in the early days of petroleum exploration in Mississippi, for the driller or owner to move the well stake to a slightly more convenient location from where the well was permitted, and then located by the surveyor. This last situation is not considered to be a significant problem to this publication.

TD or Total depth is the deepest depth given by any of the information sources consulted. The driller's and logger's depths often are in disagreement by several feet or more for several possible reasons, including human error in measurement or hole conditions not allowing the geophysical logging tools to reach the bottom of the drilled hole.

Reported formation tops were obtained from numerous sources, and, with one exception, were not correlated by the authors. The source of the data is given in parentheses when it is available to outside parties from sources available to the general public. Listing of sources, or lack thereof, is not intended in any way to indicate accuracy or reliability of the information. Accuracy of the reported formation tops is unchecked, and frequently the correlated points vary from company to company as well as from individual to individual.

Geophysical logs are listed by type as shown on the log heading when the log type is given beginning with a capital letter. Thus a Schlumberger electrical log had no specific name and the "electrical log" refers only to the general type which would usually be a spontaneous potential curve and two resistivity curves at different depths from the borehole. A Schlumberger Electrical Log is one that is identified as "Electrical Log" on the log heading. A Halliburton "Jeep" log is an early continuous electrical log consisting of a spontaneous potential curve and two resistivity curves at different depths from the borehole. The geophysical logging company name combined with a log interval means that this was reported in one of the sources referred to by the authors, and the log type is unknown. This situation usually arises with older logs which are frequently not available at the Mississippi State Oil and Gas Board. Mellen (1976) frequently refers to logs, usually not available at the Mississippi State Oil and Gas Board, on wells often drilled by companies involved in sulphur exploration. It is likely that he is referring to drillers logs, which are interval lithologic descriptions from cuttings, and not geophysical logs.

D&A and P&A are abbreviations for dry and abandoned and plugged and abandoned, and are used interchangeably for wells that are plugged without having produced oil or gas. There is no intended connotation for hydrocarbon shows or the lack thereof. J&A is the abbreviation for junked and abandoned, and means that the well was unable to be completed, probably for mechanical reasons.

Apparent discrepancies in depths during drilling, coring or testing were used as present in the original sources, which were usually hand written or typed petroleum company scout tickets.

The Appendix has a list of additional abbreviations and acronyms used in this atlas.

Maps

Wells are identified on the maps by the last five digits of their API well number. When the wells are too close together to use the API well number, they are identified by a sequential number from the text which is given at the end of the text location description for each well.

Standard petroleum well symbols are used on all maps:

- an open circle is either a new location that is undrilled, a drilled well which has not been completed and whose type is not yet known, or the location of the bottom of the well for a reported deviated well.
- an open circle with four short 'cross hairs' on the outside of the circle, at the cardinal points, is a dry hole.
- an open circle with eight short 'cross hairs' on the outside of the circle, at the cardinal points and at 45° to the cardinal points, is a gas well.
- a filled circle is an oil well.

BHL, PBHL, and SL are abbreviations for bottom hole location, probable (or proposed) bottom hole location, and surface location of deviated bore holes.

The approximate outermost perimeter of salt outline shown on the base map for each dome is based on all information available to the authors, and is known to be only approximate in accuracy in most cases. The depths given for the approximate outermost perimeter of salt are estimates based upon available reported formation tops, and are frequently not well enough defined to give an estimated depth.

ACKNOWLEDGMENTS

The authors wish to thank the following for providing comments and material, much of which is included as figures: Akzo Nobel Salt, Inc., Clayton W. Williams, Jr., Gravity Map Service, Oryx Energy Company, and

Paramount Petroleum Company, Inc. At the outset, Mr. Richard Ahern provided many helpful suggestions concerning content and organization. Mr. Alan Jackson provided much valuable data on Petal Dome.

GENERAL REFERENCES

The following references contain information that applies to all, or nearly all, of the listed domes and therefore are understood to be included in the references at the end of each dome.

- Gandl, L. A., 1982, Characterization of aquifers designated as potential drinking-water sources in Mississippi: U. S. Geological Survey, Water-Resources Investigations, Open-File Report 81-550, 90 p. with plates.
- Halbouty, Michel T., 1979, Salt domes, gulf region, United States and Mexico; second edition: Gulf Publishing Company Book Division, Houston, 561 p. with maps.
- Hawkins, M. E., and C. J. Jirik, 1966, Salt domes in Texas, Louisiana, Mississippi, Alabama, and offshore tidelands: a survey: U. S. Bureau of Mines, Information Circular 8313, 78 p.
- Mellen, Frederic Francis, 1976, Preliminary investigation of Mississippi salt domes: unpublished report, pages unnumbered.
- Scout tickets in the Mississippi Office of Geology files from several oil companies and Petroleum Information Corp.

NOTE ABOUT REFERENCES

To facilitate use of this atlas, on a single dome basis, the specific references for each dome are included at the end of the text for that dome. A complete list of references, including the general references and several sources not referred to by dome, are included at the end of the atlas.

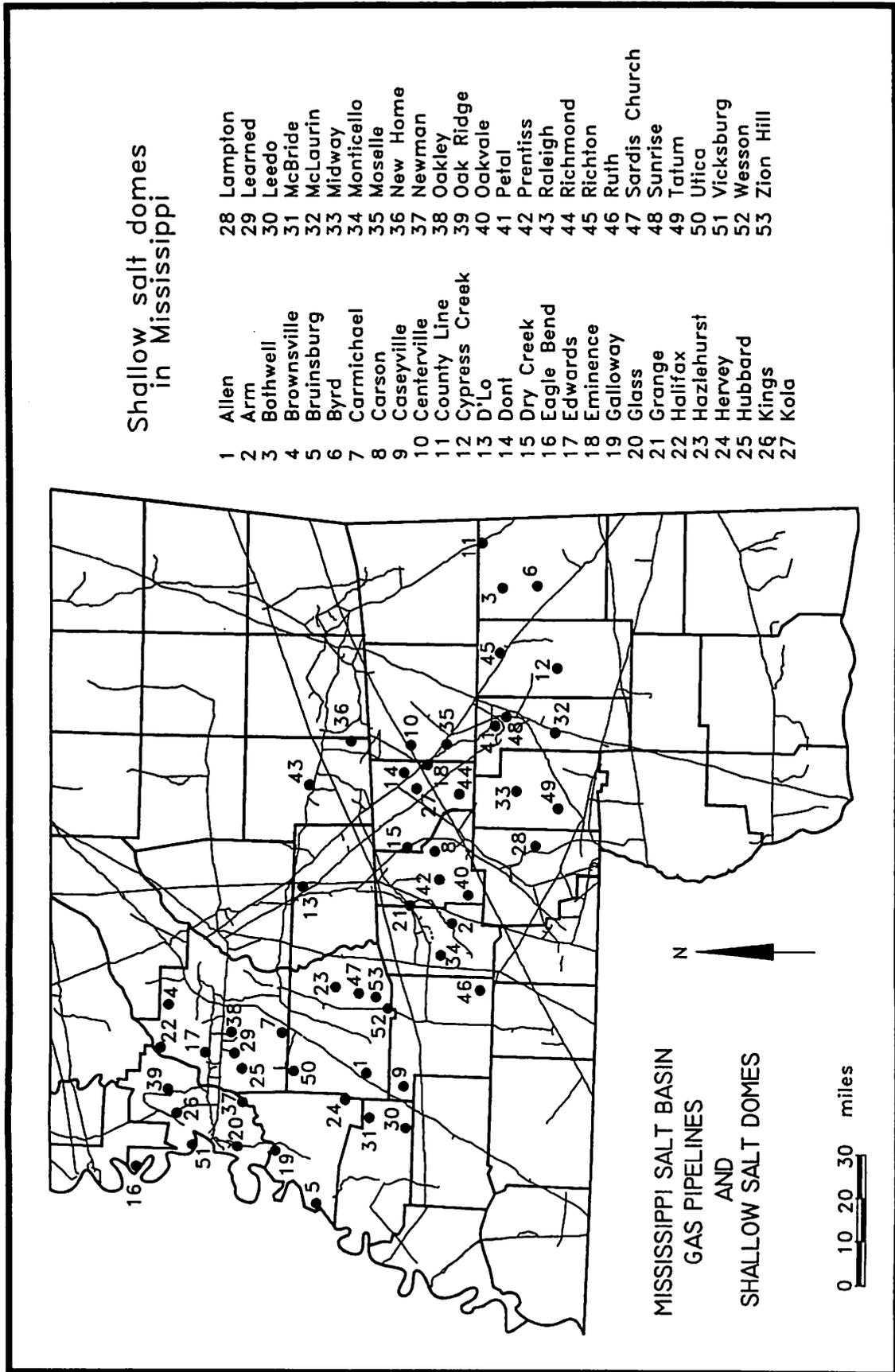


FIGURE 1

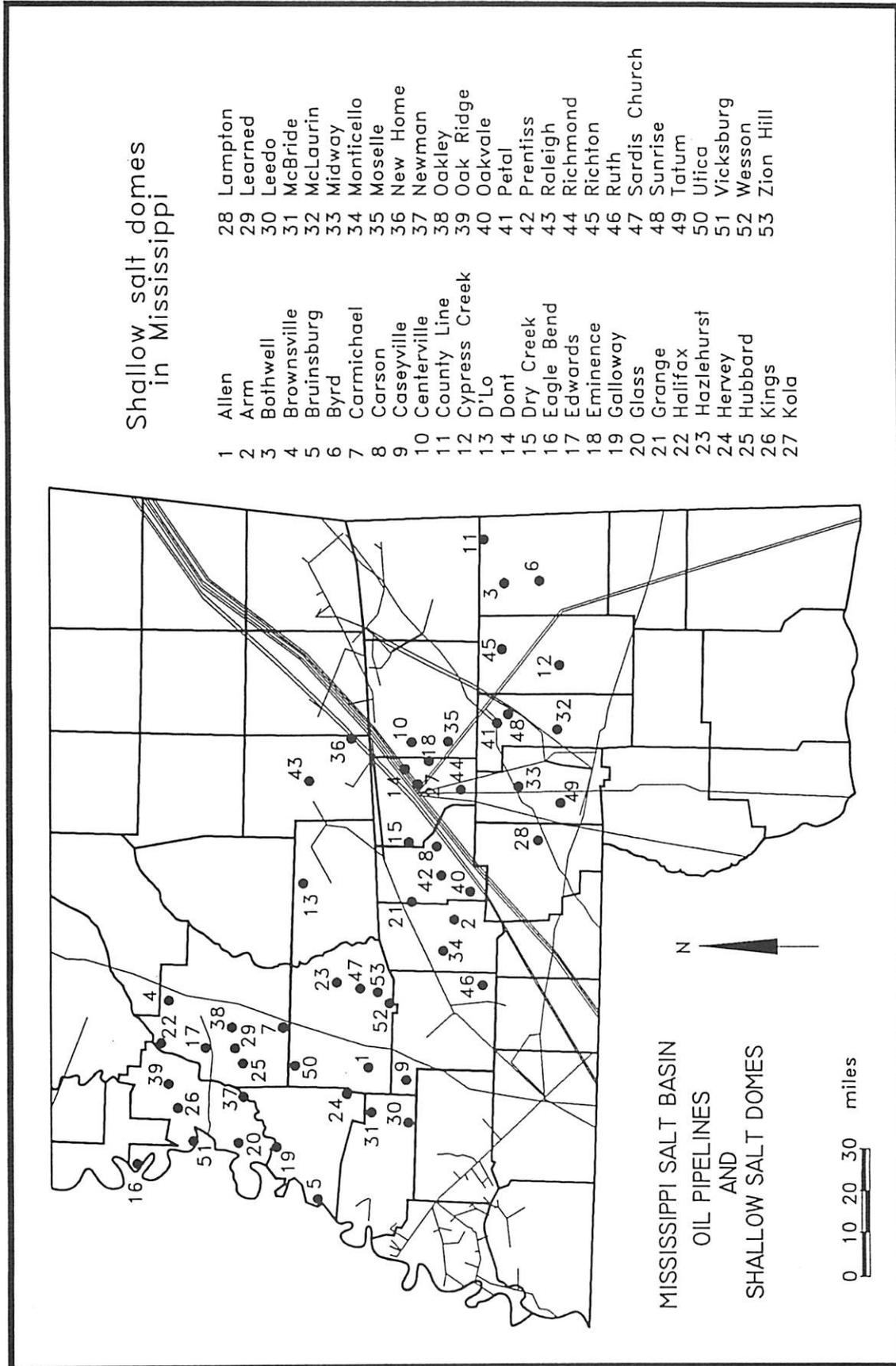
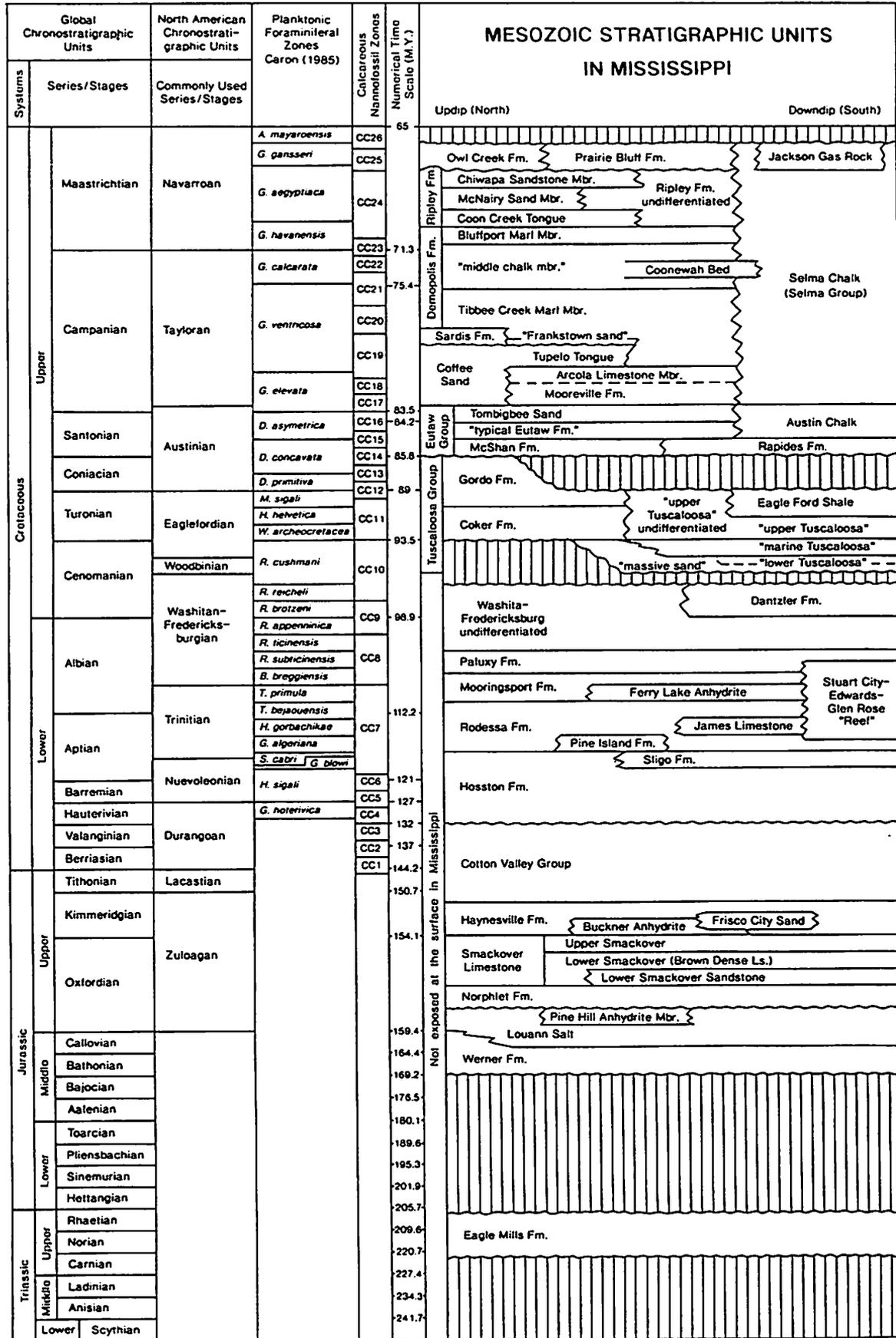


FIGURE 2



FROM DOCKERY (1996)

FIGURE 3 CONTINUED

ALLEN SALT DOME

GENERAL DATA

Location: Sections 5,6,7,8-T9N-R6E, Copiah County, Mississippi
USGS topographic map(s): Barlow, Smyrna
Geophysical data: Moderate gravity minimum with approximately 10 milligals of relief
Estimated size and shape: Oval, 1.8 miles east northeast-west southwest diameter, 1.3 miles west northwest-east southeast diameter
Estimated base fresh water (10,000 ppm): -3,350'
Economic use: None to date
Shallowest known cap rock: 2,447' (Sun Oil Company No. 2 Case Lumber Company)
Shallowest known salt: 2,780' (Sun Oil Company No. 2 Case Lumber Company)
Oldest formation penetrated within one mile of dome: Paleocene Midway Group (Sun Oil Company No. 1 Russ Ferguson)
Nearest oil or gas production: Glancy Field, 5 miles east, produces from the Lower Cretaceous Rodessa and Hosston formations, and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Sun Oil Company No. 2 Case Lumber Company
API well number: 23-029-00041
Location: 585' FSL and 660' FWL of NW/4 of Section 5-T9N-R6E
Elevation: 410' GL
Total depth: 2,800'
Reported formation tops: (scout ticket)
 cap rock 2,447'
 salt 2,774' (Mississippi State Oil and Gas Board well file)
 salt 2,780' (Mellen)
Geophysical logs: Schlumberger electrical log 350'-2,492'
Comments: Took 6 sidewall cores just above cap rock, and cored unknown interval around 2,510'.
Completed: D&A 3/1944

Additional drilling:

Well: Sun Oil Company No. 3 Natalbany Lumber Company
API well number: 23-029-00053
Location: 350' FWL and 150' FSL of SW/4 of SE/4 of Section 4-T9N-R6E
Elevation: 498' GL
Total depth: 1,700'
Reported formation tops:
Geophysical logs: Halliburton "Jeep" log from ?-1,700'
Comments: Core test
Completed: D&A 12/1941

Well: Sun Oil Company No. 1 (D-13) Case Lumber Company
API well number: 23-029-00040

Location: Center of SW/4 of NW/4 of Section 5-T9N-R6E
Elevation: 411' DF
Total depth: 2,309'
Reported formation tops:
Geophysical logs: None run
Comments: Drillstem stuck at 900'. In normal sediments to total depth by drillers log. Core test
Completed: J&A 12/1943

Well: Sun Oil Company No. 1 Natalbany Lumber Company
API well number: 23-029-00051
Location: 400' FNL and 250' FWL of NE/4 of Section 5-T9N-R6E
Elevation: 479' GL
Total depth: 1,700'
Reported formation tops:
Geophysical logs: Halliburton from ?-1,700'
Comments: Core test
Completed: D&A 2/1941

Well: Sun Oil No. 1 (D-4) Laura H. Funchess
API well number: 23-029-00047
Location: 350' S and 1,800' W of NE/corner of NW/4 of Section 6-T9N-R6E
Elevation: 439' GL
Total depth: 2,020'
Reported formation tops:
Geophysical logs: Halliburton "Jeep" log from ?-2,017'
Comments: Core test
Completed: D&A 3/1941

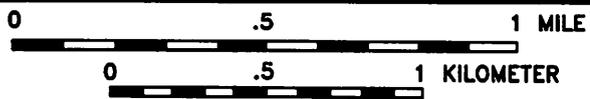
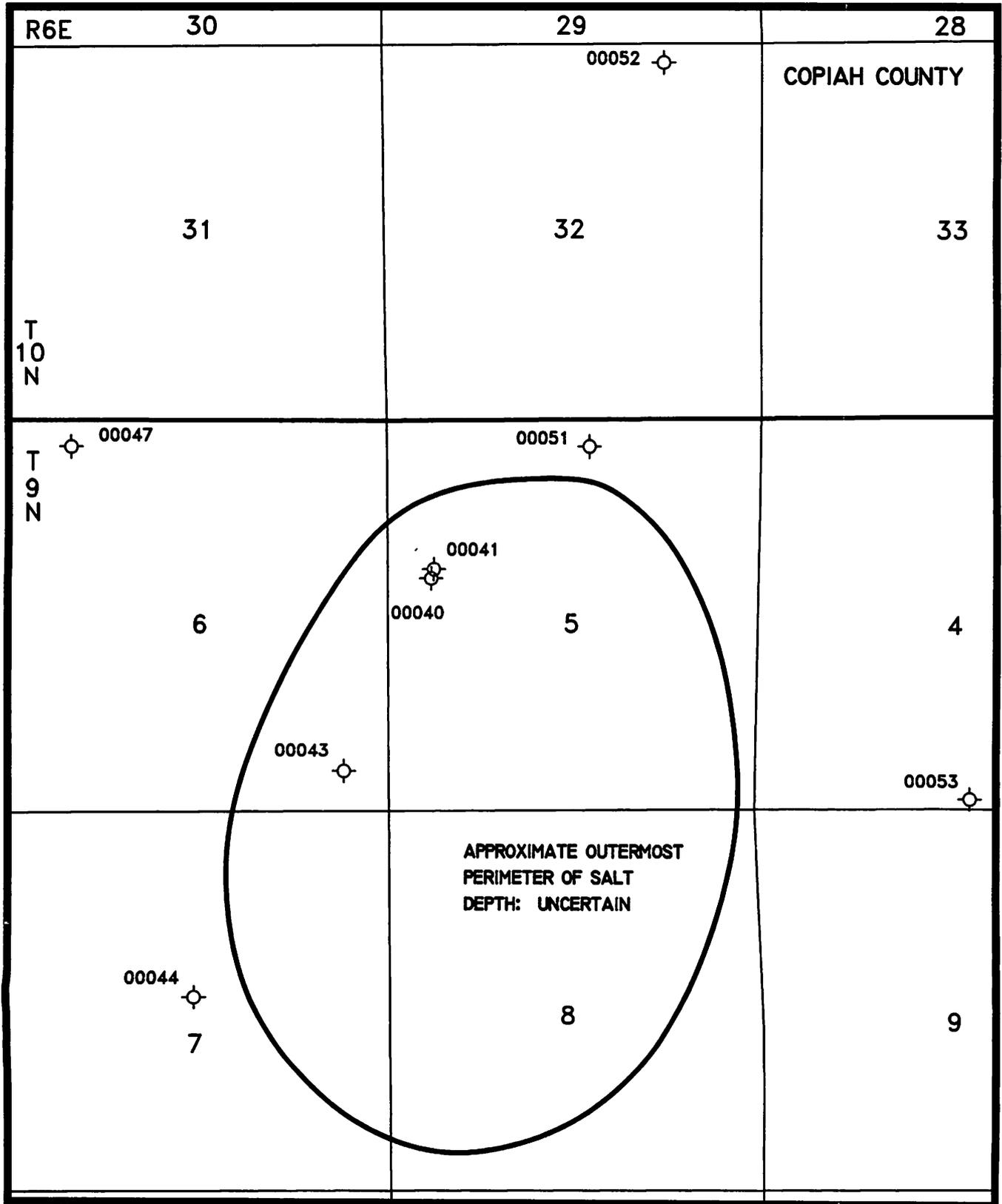
Well: Sun Oil Company No. 1 Russ Ferguson
API well number: 23-029-00043
Location: 2,011' S and 660' W of NE/corner of SE/4 Section 6-T9N-R6E
Elevation: 487' DF
Total depth: 6,005'
Reported formation tops: (scout ticket)
 Vicksburg 1,190'
 Cane River 2,910'
 Wilcox 3,195'
Geophysical logs: Schlumberger electrical log 796'-6,005'
Comments: "Drilled to 6,004' in Midway" (Mellen). Took 28 sidewall cores 1,660'-5,325'; 20 sidewall cores 5,416'-6,000'.
Completed: D&A 5/1944

Well: Sun Oil Company No. D-1 Effie Ferguson
API well number: 23-029-00044
Location: 100' N and 100' W of center of Section 7-T9N-R6E
Elevation: 472' GL
Total depth: 1,600'
Reported formation tops:
Geophysical logs: Halliburton "Jeep" log from ?-1,598'
Comments: Core test
Completed: D&A 3/1941

Well: Sun Oil Company No. 2 Natalbany Lumber Company
API well number: 23-029-00052
Location: 1,350' FEL and 250' FNL of NE/4 of Section 32-T10N-R6E
Elevation: 478' GL
Total depth: 1,700'
Reported formation tops:
Geophysical logs: Ran Halliburton "Jeep" log, interval unknown
Comments: Core test
Completed: D&A 3/1941

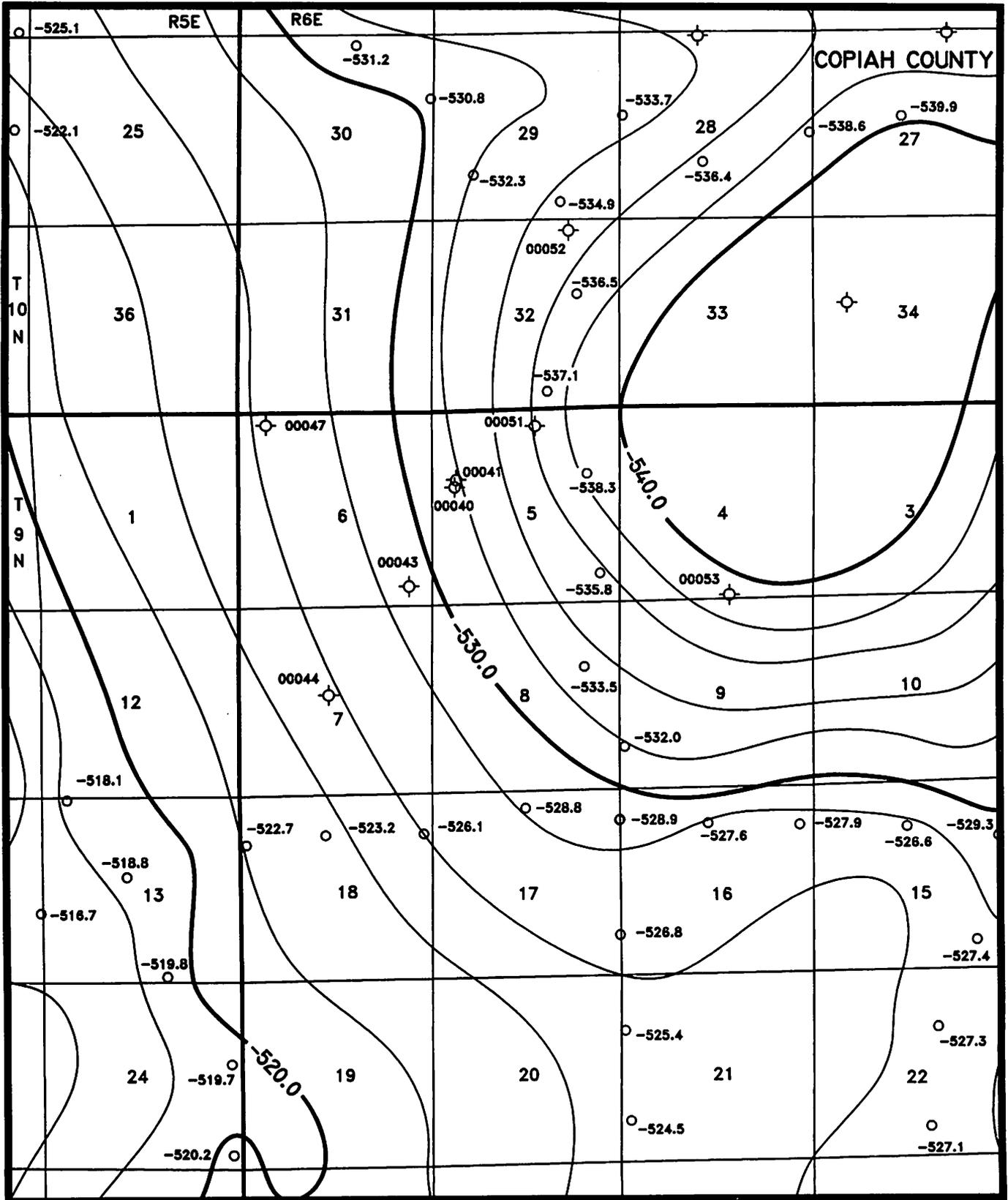
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ALLEN DOME

FIGURE 4

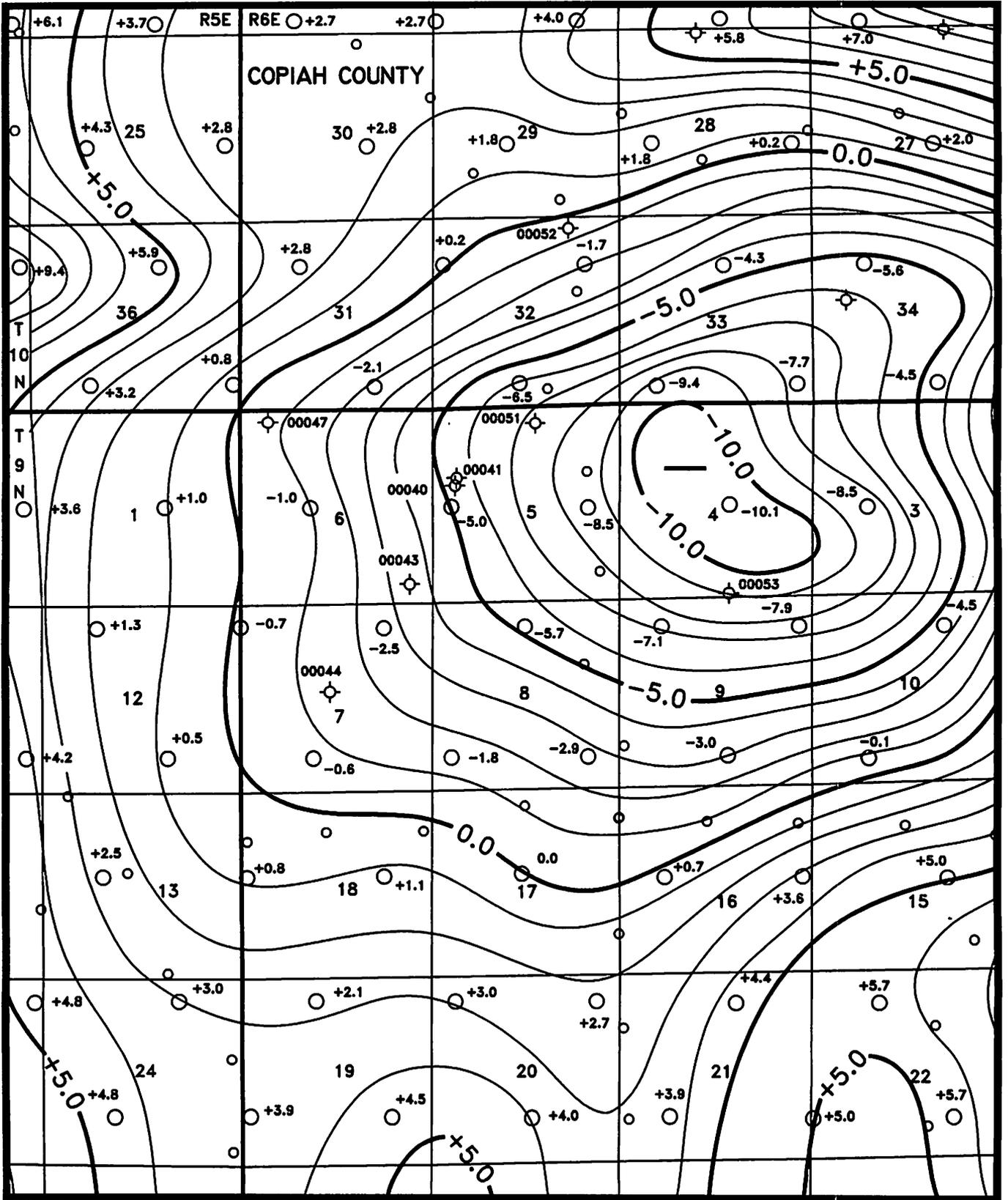


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MAP PROVIDED BY GRAVITY MAP
SERVICE, RICHMOND, TEXAS



ALLEN DOME
AREA

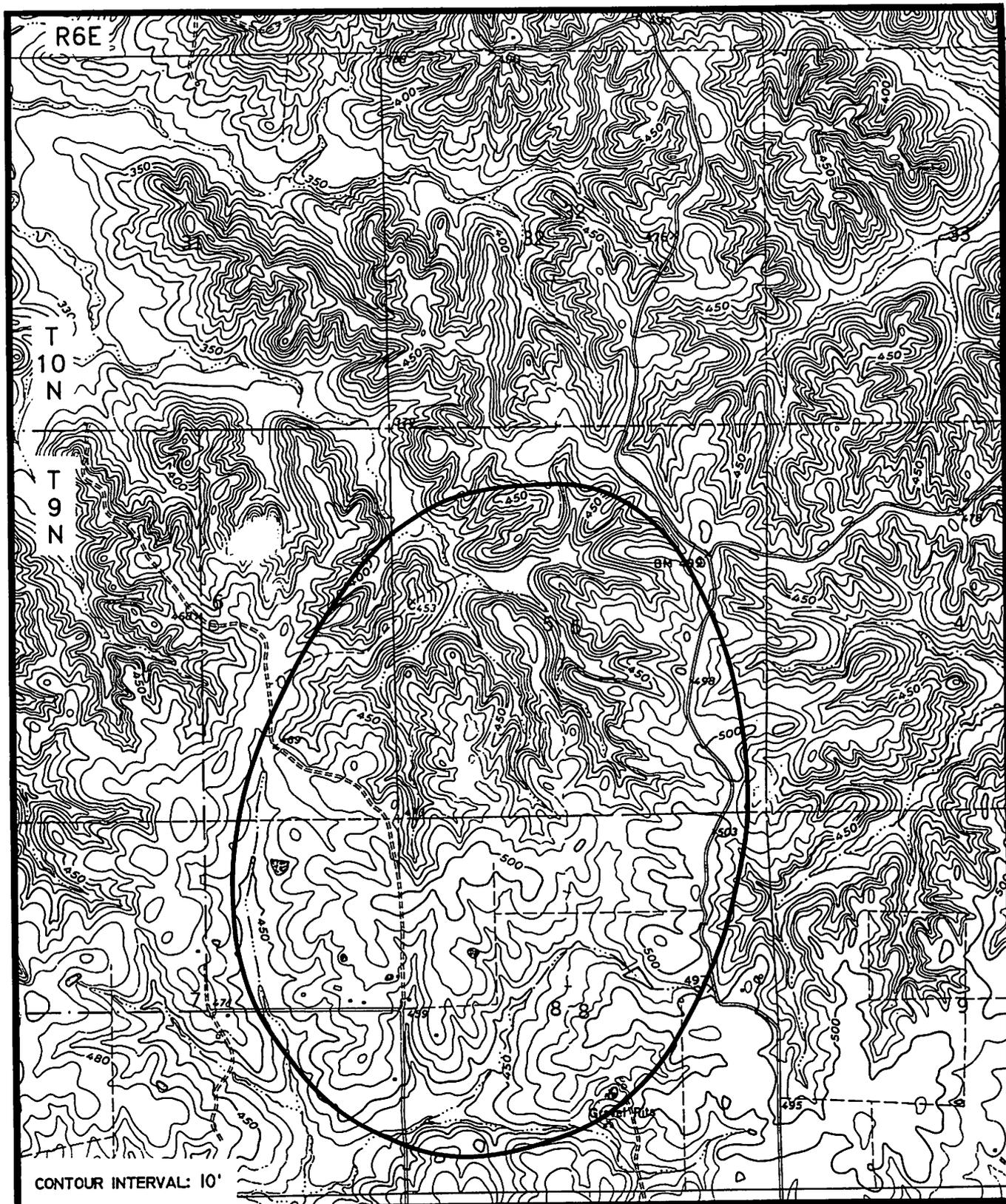
FIGURE 5



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MAP PROVIDED BY GRAVITY MAP
SERVICE, RICHMOND, TEXAS



ALLEN DOME AREA
FIGURE 6



0 .5 1 MILE

0 .5 1 KILOMETER

ALLEN DOME

FIGURE 7

ARM SALT DOME

GENERAL DATA

Location: Sections 7,8,9,16,17,18,20-T6N-R20W, Lawrence County, Mississippi

USGS topographic map(s): Monticello, Tilton

Geophysical data: Regional gravity shows a well defined minimum with approximately 20 milligals of relief, which covers a township area. A cap rock maximum is present.

Estimated size and shape: Oval, 1.6 miles in diameter east-west, 1.9 miles in diameter north-south

Estimated base fresh water (10,000 ppm): -2,600'

Economic use: None to date

Shallowest known cap rock: 1,281' (Humble Oil & Refining Company No. 2 Nelson)

Shallowest known salt: 1,932' (Humble Oil & Refining Company No. 1 S. M. Nelson)

Oldest formation penetrated within one mile of dome: Upper Cretaceous Lower Tuscaloosa Formation (Gulf Refining Company No. 1 S. N. Hickman)

Nearest oil or gas production: West Oakvale Field, 3 miles southeast, produces from the Lower Cretaceous Paluxy, James, Sligo and Hosston formations.

DRILLING HISTORY

Discovery well: Humble Oil & Refining Company No. 1 S. M. Nelson

API well number: 23-077-00010

Location: 330' FSL and 1,479' FWL of Section 8-T6N-R20W

Elevation: 197' GL, 203' DF

Total depth: 7,625'

Reported formation tops: (drillers log)

anhydrite	1,403'(samples)
anhydrite	1,505'
salt	1,932'

Geophysical logs: Schlumberger Composite Log 45'-1,936'

Comments: Cored 1,226'-36', recovered 1' sand; 1,321'-30', recovered 6" lime; 1,330'-40', recovered 6" lime; 1,340'-45', no recovery; 1,345'-55', recovered 6" lime; 1,355'-65', recovered 6" lime; 1,365'-75', recovered 6" lime; 1,375'-80', recovered 4" lime; 1,380'-88', recovered 6" lime; 1,700'-80', recovered anhydrite and lime. A seismic velocity survey was run before the well was abandoned.

Completed: D&A 1/1945

Additional drilling:

Well: Amerada Hess Corporation No. 1 Carterwood 8-8

API well number: 23-077-20101

Location: 1,652' FNL and 358' FWL of Section 8-T6N-R20W

Elevation: 204' GL (topographic map)

Total depth: 16,629'

Reported formation tops:

Geophysical logs:

Comments: Reported to have drilled salt 8,100'-16,629'

Completed: T/A 3/1994

Well: Church No. 1 Ida Mae Lee

API well number:

Location: 50' S and 150' W of NE/corner of SE/4 of SW/4 of Section 8-T6N-R20W

Elevation:

Total depth:

Reported formation tops:

Geophysical logs:

Comments: This may be an undrilled location only. The only reference to this well/location is the plat in the Sippiala Corp. No. 1 Sutton and No. 1 Foote. There is no information on this well at the Mississippi State Oil and Gas Board. The well has not been spotted on the base map.

Completed:

Well: Gulf Refining Company No. 1 S. N. Hickman

API well number: 23-077-00005

Location: 660' FNL and 1,984' FEL of Section 8-T6N-R20W

Elevation: 206' GL, 214' DF (log heading), 211' DF (scout ticket)

Total depth: 9,276'

Reported formation tops: (scout ticket)

Vicksburg	1,229'
Moodys Branch	1,670'
Yegua	1,700'
Tallahatta	2,845'
Wilcox	3,103'
Midway	5,773'
Selma	6,533'
Eutaw	7,332'
Tuscaloosa	7,834'?

Geophysical logs: Schlumberger Composite log 1,007'-9,100'

Comments: Took 31 sidewall cores, no interval given, recovered 7, no shows. Lost some of the drill stem in the hole after sticking drill pipe several times.

Completed: J&A 3/1944

Well: Humble Oil & Refining Company No. 2 Nelson

API well number:

Location: 225' S and 440' W of NE/corner of SE/4 of SW/4 of Section 8-T6N-R20W

Elevation: 202' GL (topographic map)

Total depth: 1,288'

Reported formation tops: (Mellen)

cap rock	1,281'
----------	--------

Geophysical logs: "No log released" (Mellen)

Comments: This well reported only by Mellen, who reported it as a core hole. It is at the same location as the Sippiala Corporation No. 3 S. M. Nelson, and may be the same well. There is no reference to this well at the Mississippi State Oil and Gas Board. It is not spotted on the base map.

Completed: D&A 9/1946

Well: Humble No. 1 Mrs. V. L. Parkman

API well number: 23-077-00011

Location: 2,625' FSL and 660' FWL of Section 8-T6N-R20W, also 2,400' N 20° W from Humble Oil & Refining Company No. 1 S. M. Nelson

Elevation: 210' DF

Total depth: 8,761'

Reported formation tops: (scout ticket)

original hole

Wilcox	2,483'
Midway	4,587' or 4,956'
chalk	5,495'
1st. sand (Eutaw)	6,440'
anhydrite	6,930'
salt	7,558' (core)
STH No. 1	
anhydrite	8,204' (core)
STH No. 4	
Selma	5,785'?
1st sand (Eutaw)	6,950'
Marine Tuscaloosa	8,524'
massive sand	
(L. Tuscaloosa)	8,610'

Geophysical logs: Original hole: Schlumberger Composite log 49'-7,588', 4th sidetrack hole 5,300'-TD 8,756'

Comments: Original hole

Cored 2,625'-30', recovered 4.5' sand and shale with no show; 2,630'-60' (3 cores), recovered 30' sand and shale with no show; 2,660'-80' (2 cores), recovered 20' shale; 2,680'-2,735' (6 cores), recovered 42' sandy shale with no show; 2,735'-75' (4 cores), recovered 36' lignite; 2,775'-82', recovered 2' sandy shale with no show; 6,430'-56' (3 cores), recovered 7' shale; 6,456'-61', recovered 5' sand with no show; 6,461'-81' (2 cores), recovered 9.5' sand and shale; 6,481'-6,521' (4 cores), recovered 11.5' sand and shale with no show; 6,521'-57' (4 cores), recovered 14' sand with no show; 6,643'-6,712' (8 cores), recovered 44' sand with no show; 6,712'-22', recovered 2' sand with no show; 6,722'-42' (2 cores), recovered 12' sand and shale with no show; 6,742'-69' (3 cores), recovered 9.5' shale; 6,769'-77', recovered 5' shale and sand with no show; 6,777'-90' (2 cores), recovered 5.5' sand with no show; 6,790'-810' (3 cores), recovered 12.5' sand and shale with no show; 6,810'-17', recovered 3' sand with no show; 6,817'-24', recovered 4' sand and shale with no show; 6,824'-34', recovered 1' shale and sand with no show; 6,834'-73' (7 cores), recovered 25' sand with no show; 6,960'-70', recovered 2.5' anhydrite and lime; 6,970'-75', recovered 2' anhydrite; 7,236'-401' (18 cores), recovered 58' anhydrite; 7,401'-503', recovered anhydrite; 7,503'-58', recovered anhydrite; 7,558'-88', recovered salt.

Took sidewall cores 2,500'-4,525', all no show.

Drillstem test 6,446'-86', recovered 1,500' water cushion, 400' mud, and 1,100' salt water; 6,615'-43', recovered 200' mud and 4,000' salt water.

Original hole total depth 7,588'. Plugged back and sidetracked at approximately 3,631'.

1st sidetrack hole. At 4,622' hole was 124' N and 117' E of surface location. Measured depth 4,622'=true vertical depth 4,609'.

Cored 8,118'-204', recovered sand and shale with streaks of pyrite; 8,204'-12', recovered anhydrite.

Took 6 sidewall cores 6,955'-7,760', recovered 2 with no show.

Total depth 1st. sidetrack hole 8,212'. Plugged back and sidetracked at 6,386'. Drilled to 6,413', and went into old hole. Plugged back and sidetracked at 6,323'. Drilled to 6,424' and went into old hole. Set cement plug 6,424'-6,024' and sidetracked.

2nd sidetrack hole. At 6,680' hole was 399' N and 137' E of surface location. Total depth 6,742'. Plugged back and sidetracked at 6,240'.

3rd sidetrack hole total depth 6,697'. Plugged back to 5,470' and sidetracked at 5,470'.

4th sidetrack hole. Cored 8,348'-62', recovered lime and anhydrite; 8,362'-464', recovered sand with no show; 8,464'-519', recovered sand with no show; 8,519'-601', recovered sand, shale, and sandy shale with no show; 8,601'-676', recovered sandy shale and sand with no show. 4th sidetrack hole total depth 8,761'. "At TD 8,761' bottom of hole is 785' N 11 D W of true vertical." (scout ticket) This phrase is probably best read as "At total depth 8,761', the bottom hole location is 785' N 11° W of true vertical, or the surface location."

Completed: D&A 2/1946

Well: Sippiala Corporation No. 1 S. M. Nelson

API well number: 23-077-00021

Location: 50' S 220' W of NE/corner of SE/4 of SW/4 of Section 8-T6N-R20W

Elevation: 198' GL (topographic map), 198'? (Mississippi State Oil and Gas Board well file)

Total depth: 1,494'

Reported formation tops: (drillers log)

cap rock 1,404'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 9/1946

Well: Sippiala Corporation No. 3 S. M. Nelson

API well number: 23-077-00022

Location: 225' S and 440' W of NE/corner of SE/4 of SW/4 of Section 8-T6N-R20W

Elevation: 197' GL (topographic map), 197'? (Mississippi State Oil and Gas Board well file)

Total depth: 1,283'

Reported formation tops: (drillers log)

cap rock 1,281'?

Geophysical logs:

Comments: Sulphur test

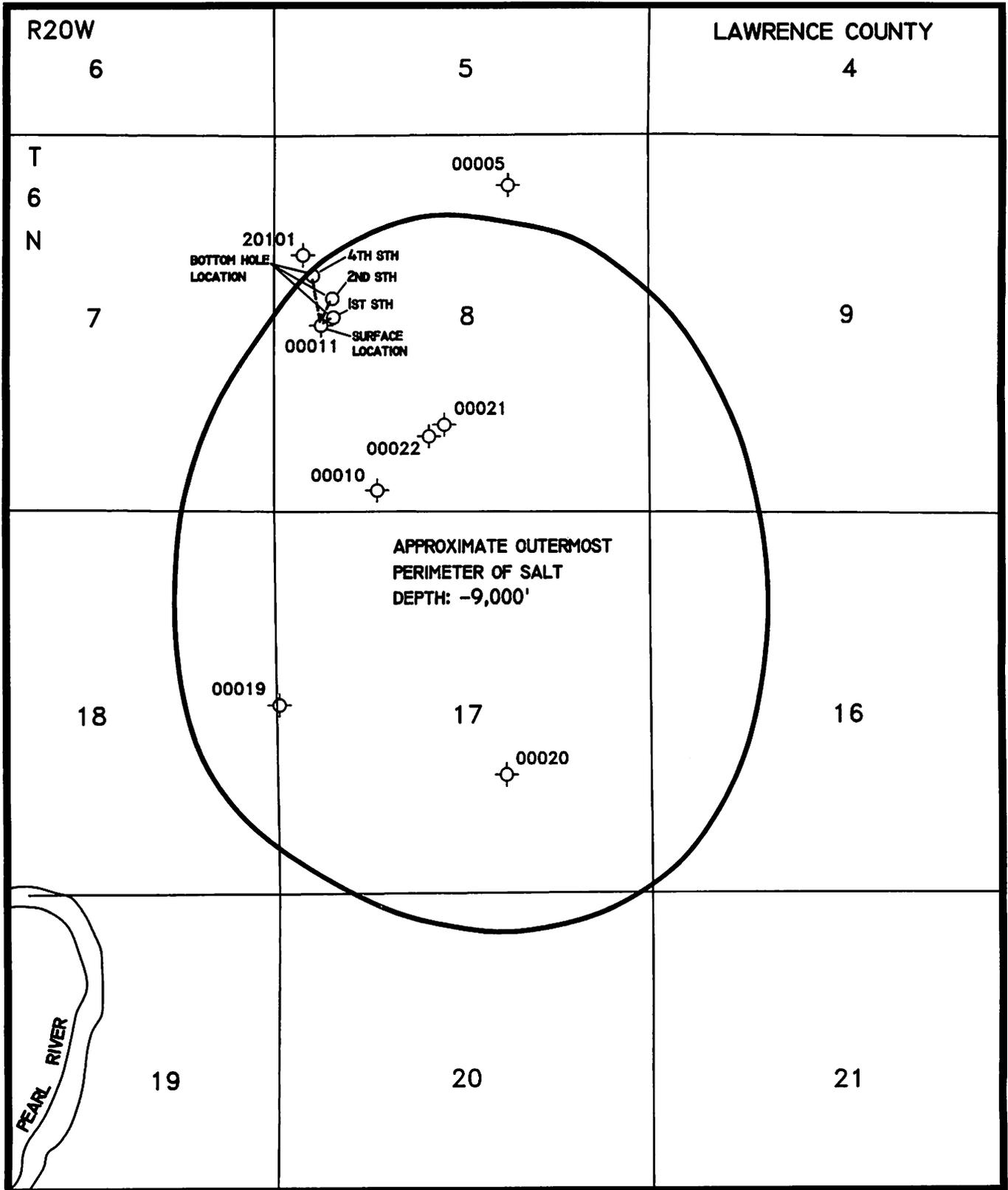
Completed: D&A 9/1946

Well: Sippiala Corporation No. 1 F. W. Foote
API well number: 23-077-00019
Location: 50' S and 50' E of NW/corner of SW/4 of Section 17-T6N-R20W
Elevation: 184' GL (topographic map), 184'? (Mississippi State Oil and Gas Board well file)
Total depth: 1,654'
Reported formation tops: (drillers log)
 cap rock 1,490'
 anhydrite 1,554'
Geophysical logs:
Comments: Sulphur test
Completed: D&A 8/1946

Well: Sippiala Corporation No. 1 W. M. Sutton
API well number: 23-077-00020
Location: 685' W and 355' N of SE/corner of NW/4 of SE/4 of Section 17-T6N-R20W
Elevation: 195' GL (topographic map), 195'? (Mississippi State Oil and Gas Board well file)
Total depth: 1,880'
Reported formation tops: (drillers log)
 cap rock 1,765'
 anhydrite 1,780'
Geophysical logs:
Comments: Sulphur test
Completed: D&A 8/1946

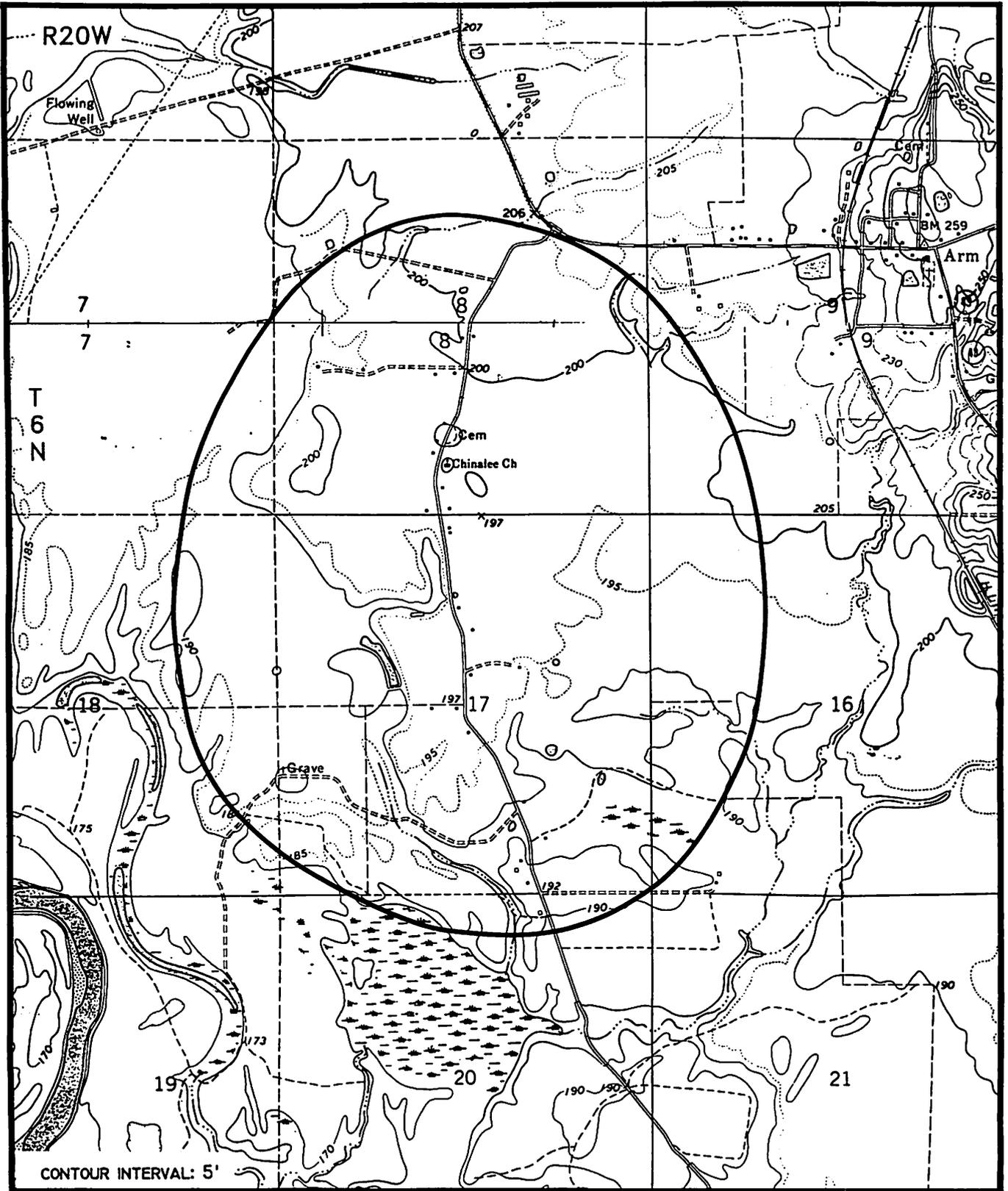
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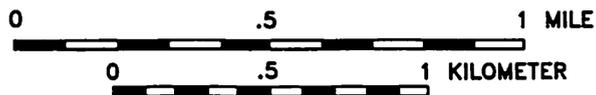


ARM DOME

FIGURE 8



CONTOUR INTERVAL: 5'



ARM DOME

FIGURE 9

BOTHWELL SALT DOME**GENERAL DATA**

Location: Sections 3,4,5,8,9,10-T4N-R7W, Section 33-T5N-R7W, Greene County, Mississippi

USGS topographic map(s): Avera

Geophysical data: Well defined gravity minimum with a small maximum in center

Estimated size and shape: Assumed circular, 1.2 miles in diameter

Estimated base fresh water (10,000 ppm): -800'

Economic use: None to date

Shallowest known cap rock: Undrilled

Shallowest known salt: Undrilled

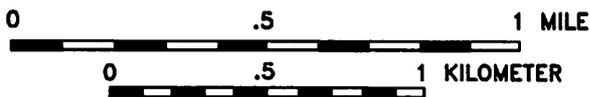
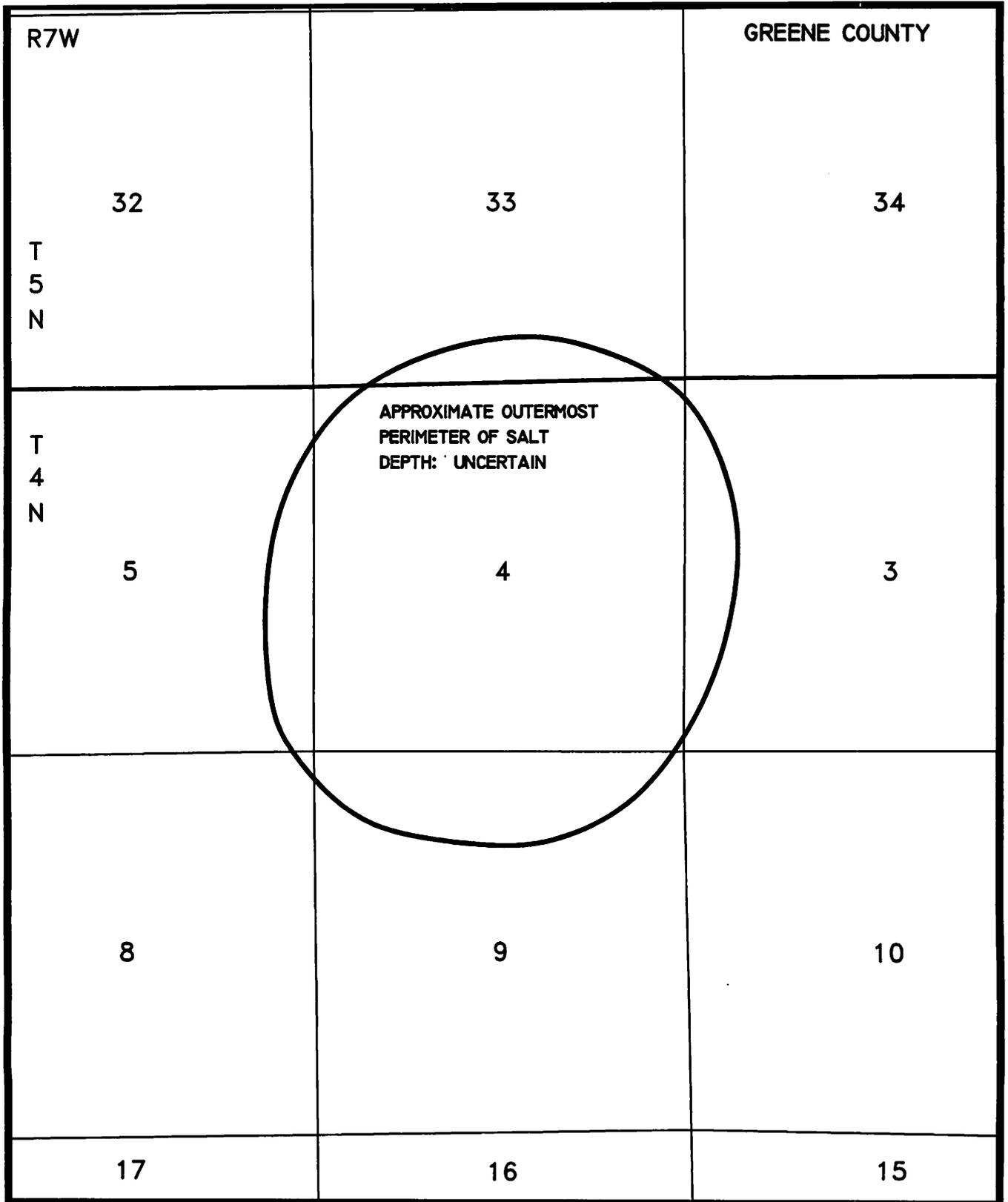
Oldest formation penetrated within one mile of dome:

There are no wells within 4 miles.

Nearest oil or gas production: Sand Hill Field, 5 miles west, produces from the Upper Cretaceous Lower Tuscaloosa Formation.

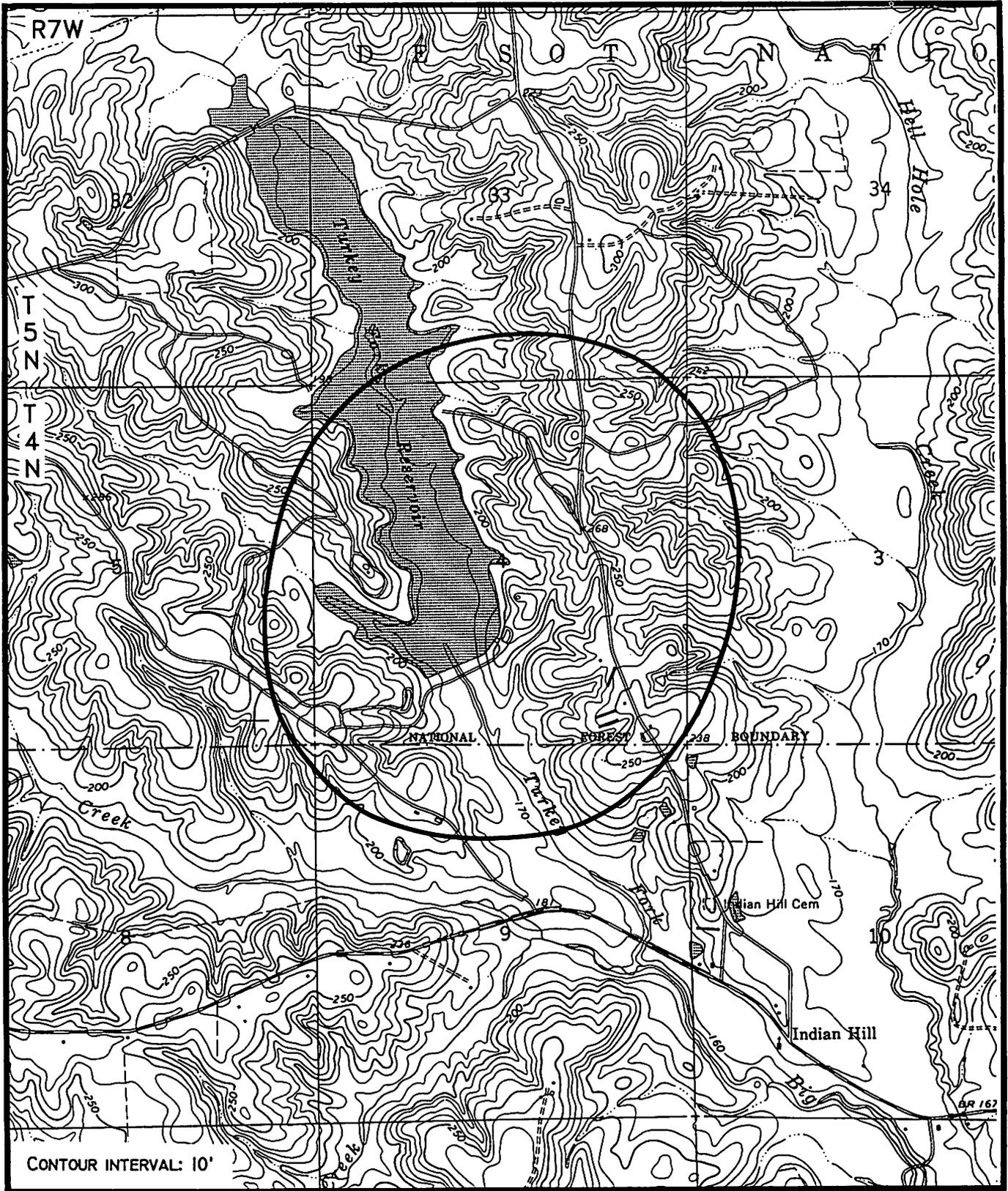
DRILLING HISTORY

Discovery well: Undrilled. "Though undrilled, Bothwell is carried in most company reports as a rather shallow piercement salt dome." (Mellen)

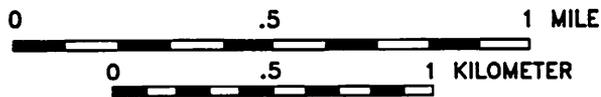


BOTHWELL DOME

FIGURE 10



CONTOUR INTERVAL: 10'



BOTHWELL DOME

FIGURE II

BROWNSVILLE SALT DOME

GENERAL DATA

Location: Sections 9,10,15,16-T7N-R2W, Hinds County, Mississippi

USGS topographic map(s): Brownsville, Pocahontas

Geophysical data: Moderate gravity minimum

Estimated size and shape: Assumed nearly circular, 1.2 miles in diameter

Estimated base fresh water (10,000 ppm): -3,650'

Economic use: None to date. Brownsville Field never produced.

Shallowest known cap rock: 4,514' (Gulf Refining Company No. 2 R. W. Trotter)

Shallowest known salt: 4,693' (Gulf Refining Company No. 2 R. W. Trotter)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Sligo Formation (Larco Drilling Company-Durbin Bond et al. No. 1 Bardin-Riley)

Nearest oil or gas production: Bolton Field, 7 miles south-southwest, produces from the Lower Cretaceous Washita-Fredericksburg, Paluxy, Mooringsport, Rodessa, and Hosston formations, and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 R. W. Trotter

API well number: 23-049-00109

Location: 660' S and 813' W of NE/corner of NW/4 of NE/4 of Section 15-T7N-R2W

Elevation: 258' GL, 269' DF

Total depth: 5,975'

Reported formation tops: (scout ticket)

Jackson	195'
Moodys Branch	584'
Cockfield	604'
Cook Mountain	1,022'
Sparta	1,185'
Winona	2,024'
Wilcox	2,312'
Midway	3,715'
gas rock	3,838'
Eutaw	5,022'
Tuscaloosa	5,398'
cap rock	5,675'
salt	5,912' (driller)

Geophysical logs: Schlumberger electrical log 38'-5,682'

Comments: Cored 3,842'-47', recovered 6" gas rock lime with very spotted brown oil show; 3,847'-57' (2 cores), recovered 10" gas rock lime with no show; 3,857'-59', recovered 10" gray lime with no show; 3,872'-74', recovered 4" soft lime with no show; 3,874'-79', recovered 4' sandy lime with no show; 3,894'-96', recovered 3" white, chalky, argillaceous lime with no show; 4,007'-10', recovered 2.5' chalk; 4,107'-08', recovered 3" chalk; 4,209'-10', recovered 1' chalky, white lime; 4,309'-10', recovered 6" hard chalk; 4,408'-09', recovered 8" sandy limestone, pyrite & calcite; 4,409'-18' (7 cores), recovered 6' 2" hard, gray, sandy lime and gray limey sand with oil show; 4,418'-21', recovered 8" sandy lime with slight oil stain; 4,462'-63', recovered 8" gray lime, fractured with calcite crystals; 4,474'-75', recovered 3" sandy lime with asphalt in fractures; 4,483'-85' (2 cores), recovered 8" burnt material; 4,485'-86', no recovery; 4,486'-4,506', recov-

ered 12' green sand with few scattered oil shows; 4,515'-22', recovered 7' green salt water sand; 4,590'-4,605', recovered 2' green sandstone, 8' black shale; 4,690'-710', recovered 20' shale; 4,790'-810', recovered 20' shale; 4,890'-95', no recovery; 4,895'-97', recovered 2' green sandstone with shale partings; 4,897'-902', recovered 2' shaly sandstone; 5,015'-35', recovered 8' sandstone with good oil show in bottom 7'; 5,035'-55', recovered 2' sandstone with good oil show; 5,055'-66', recovered 9.5' sandstone with scattered oil stain, fair odor, salty; 5,066'-166' (5 cores), recovered 93' sand with scattered oil stain, salty; 5,166'-86', recovered 11' sand with scattered oil stain, salty, 2' green sand with oil odor, 1' sand with shale streaks; 5,214'-44' (4 cores), recovered 7' 4" gray sandstone with thin shale streaks, oil stain and oil odor; 5,244'-64' (3 cores), recovered 14' 4" interbedded sand and shale with no show; 5,264'-79' (2 cores), recovered 13.5' highly distorted sandstone and shale with no show; 5,279'-89', recovered 7' highly distorted sand and shale, 2' black shale, all with no show; 5,289'-308' (2 cores), recovered 16' black shale with gray sandstone pockets having slight oil stain; 5,308'-318', recovered 9' gray sandstone with interbedded black shale, scattered pin point oil; 5,318'-28', recovered 8.5' sandstone with free dark brown oil throughout core; 5,328'-54' (3 cores), recovered 34.5' (as reported) shaly sandstone with few pin points oil; 5,354'-64', recovered 6' black shale with gray sandstone streaks, oil stain; 5,364'-74' (2 cores), recovered 9' sandstone with dark brown oil stain, good odor and taste; 5,374'-82', recovered 6" sand with slight oil odor and stain; 5,382'-92' (2 cores), recovered 9' shale; 5,392'-402', recovered 1.5' black shale, 3' sand with oil show, 1.5' gray shale; 5,402'-12', recovered 5' gray shale; 5,412'-21', recovered 8' gray shale, 1' sand with oil show; 5,421'-30' (2 cores), recovered 7' gray shale with few spots oil stain in top foot; 5,430'-35', recovered 2' shale, 1' shale with streaks of oil sand, 1' soft oil sand; 5,435'-40', recovered 5' soft brown oil sand; 5,440'-45', recovered 9" oil sand, 4' 3" shale; 5,445'-55' (2 cores), recovered 8' gray shale and 1' 3" slightly sandy shale with pin points of oil show and 9" gray sand with dark brown oil stain; 5,455'-60', recovered 9" sand with oil show; 5,460'-65', recovered 5' gray shale; 5,465'-70', recovered 4' gray shale, 1' sandy shale with oil stain; 5,470'-75', recovered 1.5' gray, slightly asphaltic shale, 1.5' shaly sand with oil stain; 5,475'-80', recovered 3' shaly sand with oil stain, 2' ashy, shaly sand; 5,480'-85', no recovery; 5,485'-86', recovered 9" sand with oil show; 5,486'-91', recovered 3.5' shale, 1' 3" oil sand; 5,491'-503' (3 cores), recovered 6' 3" oil sand; 5,506'-16', recovered 4' mudstone, 6' sandstone with spotted (oil) saturation, bleeding oil in more porous parts; 5,516'-26', recovered 6' siltstone with streaks of brown sand spotted with brown oil, 4' gray sandstone with no show; 5,526'-36', recovered 9' porous sand with slight oil odor and taste, 1' black shale with 60°-75° dip; 5,536'-46', recovered 2' gray, porous, medium grain, ashy sand with slight oil odor and slight salt taste, 1' black shale with sand streaks showing steep dip, 3' gray, ashy sand with slight oil odor and taste, slight salt taste; 5,546'-56', recovered 3' sand with oil odor and taste, 2' gray sand bleeding oil, no salt taste; 5,556'-57', recovered 1' gray sand with oil show and good fluorescence; 5,557'-58', recovered 9" sandstone with black oil stain; 5,558'-59', recovered 11" sandstone with oil stain; 5,559'-60', recovered 1' mudstone; 5,560'-67', recovered 1.5' dark gray mudstone, 1.5' light gray, shaly sand, 1' red and gray

mudstone; 5,567'-76', recovered 2' red and gray mudstone, 7' gray, ashy sandstone with no show; 5,576'-81', recovered 5' gray, ashy, oil stained sandstone; 5,581'-86', recovered 3' sand with no show, 4' 9" sand with oil stain, spotted in part; 5,586'-91', recovered 5' sand with no show; 5,591'-601', recovered 10' gray sand with salty taste and oil odor; 5,601'-11', recovered 2' gray sand with salty taste and slight oil odor; 5,611'-21', recovered 1' gray sand with spotted stain; 5,621'-28' (2 cores), recovered 5' gray sand with good oil show, slightly salty taste, bleeds oil in pin points; 5,628'-39' (2 cores), recovered 2.5' sandstone with slight oil stain and odor, salty taste; 5,639'-41', recovered (4.5' of previous core) 5.5' gray, ashy sand with no show, 1' sandstone with oil stain and salt taste; 5,641'-43', recovered 2' sandstone with oil odor and salt taste; 5,656'-61', recovered 2' sand with oil stain and odor, 1' sand with no show; 5,661'-66', recovered 5' 8" gray shale, 4' 4" (as reported) gray sandstone with oil odor and salt taste; 5,666'-76', recovered 1' soft, mushy, gray sand, 4' 6" green-gray, slightly waxy, pyritic shale with gypsum filling fractures and with brown oil stain, 6" silty shale; 5,676'-84', recovered 7' hard, black, pyritic, highly broken and fractured limestone, sandy in part with veins filled with anhydrite and live oil; 5,684'-94', recovered 5' broken black lime and anhydrite with oil stain in fractures; 5,694'-704', recovered 2.5' broken black lime and anhydrite with no show, 7.5' anhydrite; 5,704'-87' (9 cores), recovered 48.5' anhydrite; 5,875'-5,912' (4 cores), recovered 28' broken anhydrite and shale; 5,960'-75' (2 cores), recovered 14' salt.

Took 16 sidewall cores 3,839'-5,652'.

Drillstem test 3,846'-907', recovered 180' mud and 1,350' salt water; 4,355'-409', recovered 360' mud and 1,500' mud cut with salt water, no shows; 4,410'-18', recovered 30' mud and 900' salt water with trace brown oil; 5,018'-35', recovered 20' muddy salt water, 220' salt water with very slight rainbow; 5,364'-74', recovered 30' oil cut mud and salt water, 540' slightly oil cut salt water; 5,394'-402', recovered 10' mud cut with heavy black oil; 5,419'-30', recovered 45' of 19° gravity oil and 30' mud cut with oil; 5,430'-40', recovered 15' of 19° gravity oil and 30' mud cut with oil; 5,448'-86', packer would not hold; 5,455'-86', recovered 25' slightly brackish and slightly oil cut mud; 5,488'-503', valve failed to open; 5,488'-503', recovered 125' oil cut mud and salt water, and 120' salt water; 5,544'-57', recovered 30' mud cut salt water and 180' salt water; perforations 5,484'-96', recovered salt water with rainbow show of oil; perforations 5,434'-44', recovered salt water with good show of oil on pit; perforations 5,402'-55', recovered 275' heavily oil cut mud; perforations 5,402'-55', at first no recovery, put fresh water in tubing and recovered 200' fresh water and 200' oil cut mud; perforations 5,434'-44', recovered added fresh water and small amount oil; perforations 5,418'-42', recovered 60' oil and 120' oil cut mud.

Straight hole survey at 4,515', off 1/2°; 4,790' and 4,823', off 3 1/4°; 5,246', 5,392', 5,480', and 5,570' off 3 3/4°; 5,680' off 2 1/2°; 5,890' off 6°.

Set whipstock at 4,425', milled window in casing 4,406'-19', drilled 4,419'-53'. At 4,453' hole off 1° to NW. Left fish in hole at 4,523', unable to recover.

Completed: D&A 11/1947

Additional drilling:

Well: Larco Drilling No. 1 Bardin-Riley (L. A. Wyatt and Como Drilling Company) No. 1 Bardin-Riley

API well number: 23-049-00153

Location: 600' FWL and 660' FSL of SW/4 of SE/4 of Section 9-T7N-R2W

Elevation: 325' GL, 333' DF, 335' KB

Total depth: 10,508'

Reported formation tops: (scout ticket)

Wilcox	2,411'
Porters Creek	4,173'
gas rock	4,280'
base gas rock	5,710'
Eutaw	6,312'
Tuscaloosa	7,008'
Lower Cretaceous	7,930'
Ferry Lake equivalent	9,685'
Rodessa	9,755'
Sligo	10,280'

Geophysical logs: Schlumberger Electrical Log 507'-10,504'

Comments: Drilled to 6,510' by L. A. Wyatt and Como Drilling Company who took 19 sidewall cores 2,418'-6,496', all no show; and cored 4,291'-316', recovering 25' lime with no show, and 6,325'-50', recovering 25' sand with no show. Deepened by Larco Drilling.

Completed: D&A 7/1957

Well: Belden & Blake Corporation No. 2 Trotter 10-11

API well number: 23-049-20083

Location: 3,205' FNL and 1,650' FWL of Section 10-T7N-R2W

Elevation: 287' GL, 299' KB

Total depth: 4,080'

Reported formation tops: (scout ticket)

Wilcox	2,908'
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Geophysical logs:

Comments: Perforated 3,244'-46', swabbed salt water; 2,910'-14', swabbed salt water; 3,640'-50', tested salt water.

Completed: D&A 12/1982

Well: W. R. Fairchild Production Company et al. No. 1 J. G. Carsley

API well number: 23-049-00090

Location: 330' FEL and 330' FSL of SE/4 of SE/4 of Section 10-T7N-R2W

Elevation: 331' DF

Total depth: 10,007'

Reported formation tops: (scout ticket)

Wilcox	2,422'
gas rock	4,160'
Eutaw	6,252'
Lower Tuscaloosa	7,543'
Lower Cretaceous	7,900'
Rodessa	9,490'?
Pine Island	9,800'?

Geophysical logs: Schlumberger Induction-Electrical Log 1,207'-10,006'

Comments: Took 30 sidewall cores 2,400'-10,000', no show except for heavy asphaltic shows 7,940'-60', and 8,160'-90'.

Completed: D&A 7/1961

Well: Goldsberry-Midroc & Watkins-Belden & Blake No. 1 Irby Construction Company et al. 10-6

API well number: 23-049-20064

Location: 2,310' FNL and 1,370' FWL of Section 10-T7N-R2W

Elevation: 323' GL, 330' DF, 331' KB

Total depth: 4,538'

Reported formation tops: (scout ticket)

Moodys Branch	1,183'
Sparta	1,837'
Zilpha	2,392'
Wilcox	2,800'
Midway	3,990'
gas rock	4,103'

Geophysical logs: Schlumberger Dual Induction-Laterolog 377'-4,535', Compensated Neutron-Formation Density 2,500'-4,537', Continuous Dipmeter 1,500'-4,536'

Comments: Took 90 sidewall cores, no information on interval or results.

Completed: D&A 2/1980

Well: Gulf Refining Company No. 1 H. C. Burgess et al.

API well number: 23-049-00107

Location: 330' S and 330' E of NW/corner of SW/4 of NW/4 Section 10-T7N-R2W

Elevation: 361' GL, 372' DF

Total depth: 4,757'

Reported formation tops: (scout ticket)

Moodys Branch	882'
Cockfield	910'
Cook Mountain?	1,332'
Sparta	1,517'
Cane River	2,042'
Winona	2,269'
Wilcox	2,549'
Midway	3,900'
gas rock	4,011'
anhydrite	4,726' (driller)
salt	4,742' (driller)

Geophysical logs: Schlumberger electrical log 106'-4,724'

Comments: Cored 2,234'-37', recovered 2' sandy shale, 1' shaly sand with spotted dead oil show; 2,237'-47', recovered 9' gray sandy shale; 2,549'-52', recovered 2' sand with heavy black oil show; 2,552'-55', recovered 2' sand, 1' shaly sand, all with black oil show; 2,555'-60', recovered 3' shaly sand, 1' sand, 1' shaly sand, all with black oil show; 2,560'-67', recovered 1' sandy shale with no show, 3' sand with black oil show, 3' sandy shale with spotted oil show; 2,567'-77', recovered 6' sandy shale with no show, 4' sand with black oil show; 2,578'-79', recovered 2' sandy lime; 2,579'-80', recovered 7" brown limestone with show of oil in fractures; 2,580'-86', recovered 5' sand with spotted oil show; 3,795'-98', recovered 3' gray, sandy shale with no show; 3,824'-26', recovered 2' sand with spotted dead asphalt stain; 3,857'-60', recovered 2' sand with no show; 4,015'-18', recovered 3" shale, 1' 9" limestone with no show; 4,018'-23', recovered 5' lime with no show; 4,023'-33', recovered 7' limestone with oil show in bottom 1.5'; 4,033'-38', recovered 1.5' limestone with oil show, honey comb streaks; 4,038'-43', recovered 10" limestone with oil show in fractures; 4,043'-48', recovered 2" limestone with oil show; 4,048'-53', recovered 3" lime with slight oil show; 4,053'-58', recovered 1.5' lime with no show, 1' chalk with slight oil show; 4,058'-4,060', recovered 6" lime with no show; 4,171'-76', recovered 6" lime with oil show; 4,176'-80' (2 cores), recovered 1' 2" lime with no show; 4,280'-85', recovered 5' 4" lime with no show; 4,385'-88', recovered 8" lime with slight oil show; 4,500'-07' (2 cores), recovered 6' lime with slight oil show; 4,507'-12', recovered 3' sandy limestone with oil show in fractures; 4,512'-26', recovered 5' limestone spotted with dead oil;

4,526'-29', recovered 3" limestone with no show; 4,617'-28', recovered 2" sand with no show; 4,623'-29', recovered 3" sand with spotted oil stain; 4,629'-35', recovered 6" sand spotted with brown oil stain; 4,660'-66', recovered 1' sand with brown oil stain; 4,666'-72', recovered 6" sand with brown oil stain; 4,736'-39', recovered 1.5' shale; 4,739'-45', recovered 3" limestone, 3" salt; 4,745'-57', recovered 2' salt.

Took 17 sidewall cores 2,290'-3,704', with shows at 2,298', 2,300', 2,302', 2,310', 2,312', and 3,226'.

Drillstem test 2,548'-60', recovered 20' mud slightly cut with heavy black oil, estimated 10° gravity; 2,549'-79', recovered 180' mud, 1,165' fresh water cut with gas and specks of heavy black oil, and 5' sand; 4,024'-60', recovered 150' mud slightly oil and gas cut, 180' salt water slightly oil and gas cut.

Sidetracked at approximately 1,800'.

Completed: D&A 5/1948

Well: James W. Harris (Production Corporation) & Verne Culbertson No. 1 Robert Trotter 10-11 et al.

API well number: 23-049-20026

Location: 541' FNL and 390' FWL of NE/4 of SW/4 of Section 10-T7N-R2W

Elevation: 307' GL, 313' DF, 314' KB

Total depth: 4,624'

Reported formation tops: (scout ticket)

Moodys Branch	1,338'
Cook Mountain	1,371'
Zilpha	2,605'
Winona	2,730'
Wilcox	2,905'?
Midway	3,880'
gas rock	3,928'

Geophysical logs: Schlumberger Dual Induction log 392'-4,618', Compensated Formation Density Log 3,700'-4,614', Borehole Compensated Sonic Log-Gamma Ray 2,500'-4,600'

Comments: Discovery well for Brownsville Field. Completed from Wilcox perforations 3,540'-50' for 110 BOPD of 11° gravity oil with 0# TP. The well was never produced because sand was produced with the very thick oil. The well was temporarily abandoned by 3/1981, and P&A by 12/1990.

Cored 3,861'-87', recovered 26' calcareous shale; 3,887'-902', recovered shaly limestone with the lower 3' being vuggy with oil in the vugs.

Took 43 sidewall cores 2,914'-4,578', recovered sand with oil show 2,915'-29', 3,542'-50', 3,586'-94', 3,670', 3,881' and 3,983'.

Completed: 7/1974

Well: Goldsberry, Midroc & Watkins, Belden & Blake No. 1 Trotter

API well number: 23-049-20067

Location: 672' FNL and 456' FWL of NW/4 of NE/4 Section 15-T7N-R2W

Elevation: 257' GL, 266' DF, 267' KB

Total depth: 5,824'

Reported formation tops: (scout ticket)

Zilpha	1,867'
Wilcox	2,322'
Midway	3,692'

gas rock	3,819'
base gas rock	4,973'
anhydrite	5,489'
salt	5,817'

Geophysical logs: Schlumberger Dual Induction-SFL 534'-5,814', Directional log 600'-5,820', Continuous Dipmeter 534'-5,820'

Comments: Attempted 45 and recovered 43 sidewall cores 3,823'-5,730', show oil 4,936'-4,100', 5,287'-92', 5,352'-60', 5,410'-16', and 5,727'-29. Drillstem test at 5,350'-70', packer failed.

Completed: D&A 3/1980

Well: Gulf Refining Company No. 2 R. W. Trotter

API well number: 23-049-00110

Location: 483' S and 990' W of NE/corner of NW/4 of NE/4 of Section 15-T7N-R2W

Elevation: 260' GL, 271' DF

Total depth: 4,702'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

sidetrack hole

Cook Mountain	1,056'
Camerina	1,201'
Zilpha	1,778'
Winona	2,050'
Wilcox	2,324'
Midway	2,665'
gas rock	3,740' (drillers log)
salt	4,697'

Geophysical logs: Schlumberger electrical log 1,031'-4,702'

Comments: Cored 3,455'-57', recovered 2' sandstone with no show; 3,550'-55', recovered 5' sandy shale; 3,590'-95', recovered 5' sandy shale; 3,689'-94', recovered 5' shale with sand streaks, no show; 3,700'-29' (5 cores), recovered 21.5' black shale; 3,729'-39', recovered 9' black shale, 2" gas rock; 3,739'-43' (2 cores), recovered 1' 3" gas rock with asphalt show.

Reamed to bottom after hole problems, pulled into casing and hole bridged at 1,060'. Sidetracked hole while reaming at 1,685'.

Cored 2,290'-95', no recovery; 2,295'-300', recovered 5.5' shale, 1.5' shale and sand with oil show, 3' shale; 2,300'-15' (2 cores), recovered 15' gray and green sandy shale; 3,731'-40' (2 cores), recovered 9' black shale; 3,740'-45', recovered 6" black shale, 1.5' chalk with oil show; 3,745'-51' (3 cores), recovered 5' chalk with oil show; 3,766'-68', recovered 6" chalk with spotted oil show; 3,768'-802' (4 cores), recovered 7.5' chalk with no show; 3,910'-20' (4 cores), recovered 4.5' chalk with no show; 4,109'-11', recovered 1' chalk with no show; 4,111'-13', recovered 1' 8" chalk with no show, 4" chalk with spotted oil show; 4,113'-19', recovered 1' limey sand with no show, 6" sand with spotted oil show; 4,319'-22', recovered 1' sand with no show; 4,414'-18' (2 cores), recovered 2.5' gray-green, sandy shale with brown oil stain; 4,418'-23', recovered 3.5' gray-green sandy shale with oil stain, 1' sandstone bleeding brown oil; 4,423'-28' (2 cores), recovered 4' shale having sandstone streaks with oil show; 4,428'-32', recovered 4' lime with oil show; 4,432'-38', recovered 6' shale and dolomite with oil show; 4,438'-45', recovered 3' shale and anhydrite, 1.5' anhydrite, 1.5' sandy shale and anhydrite, all with oil show; 4,445'-51', recovered 6" sand with oil show, 4.5' green, sandy shale with oil show and gas odor; 4,451'-56', recovered 1' sandy shale with oil show; 4,463'-65', recovered 1' sand, salty taste with no show, 11" sand,

salty taste with oil show; 4,465'-73', recovered 3' shaly sand with oil show, 2' shale; 4,497'-500', recovered 1.5' sand with spotted oil show; 4,500'-03', recovered 1' sand with spotted oil show; 4,503'-06', recovered 2' sandy shale with spotted oil show, 1' sand with gas odor; 4,506'-10', recovered 1' shale; 4,510'-15', recovered 1' shale and lime with spotted oil show; 4,643'-48', recovered 1.5' anhydrite; 4,648'-52', recovered 1' anhydrite; 4,699'-701', recovered 2' salt.

Took sidewall cores 2,295'-4,344', recovered oil show 2,295', 2,296', 4,410', and 4,412'; recovered gas odor 4,408' and 4,411'.

Drillstem test 2,293'-300', recovered 20' mud with no show; 3,743'-51', recovered 5' mud with no show; 4,423'-56', packer failed after 7 minutes, recovered 520' mud; 4,425'-56', recovered 120' mud with no show.

Completed: D&A 1/1948

Well: James W. Harris Production Corporation No. 1 Robert Trotter 15-2

API well number: 23-049-20028

Location: 560' FNL and 560' FWL of NW/4 of NE/4 of Section 15-T7N-R2W

Elevation: 258' GL, 266' DF, 267' KB

Total depth: 5,725'

Reported formation tops: (scout ticket)

Moodys Branch	605'
Zilpha	1,855'
Wilcox	2,245'
Midway	3,736'
gas rock	3,848'
base chalk	4,530'
Eutaw	5,170'
Upper Tuscaloosa	5,390'

Geophysical logs: Dual Induction Focused Log 460'-5,718', Compensated Densilog Compensated Neutron Gamma Ray 3,800'-5,718'

Comments: Took 109 sidewall cores 2,248'-5,519' with non-commercial oil shows at 2,281'-84', 3,853'-57', 4,501', 4,505'-07', 4,513'-19', 5,177', and 5,511'-18'.

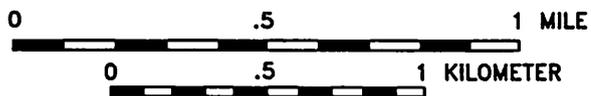
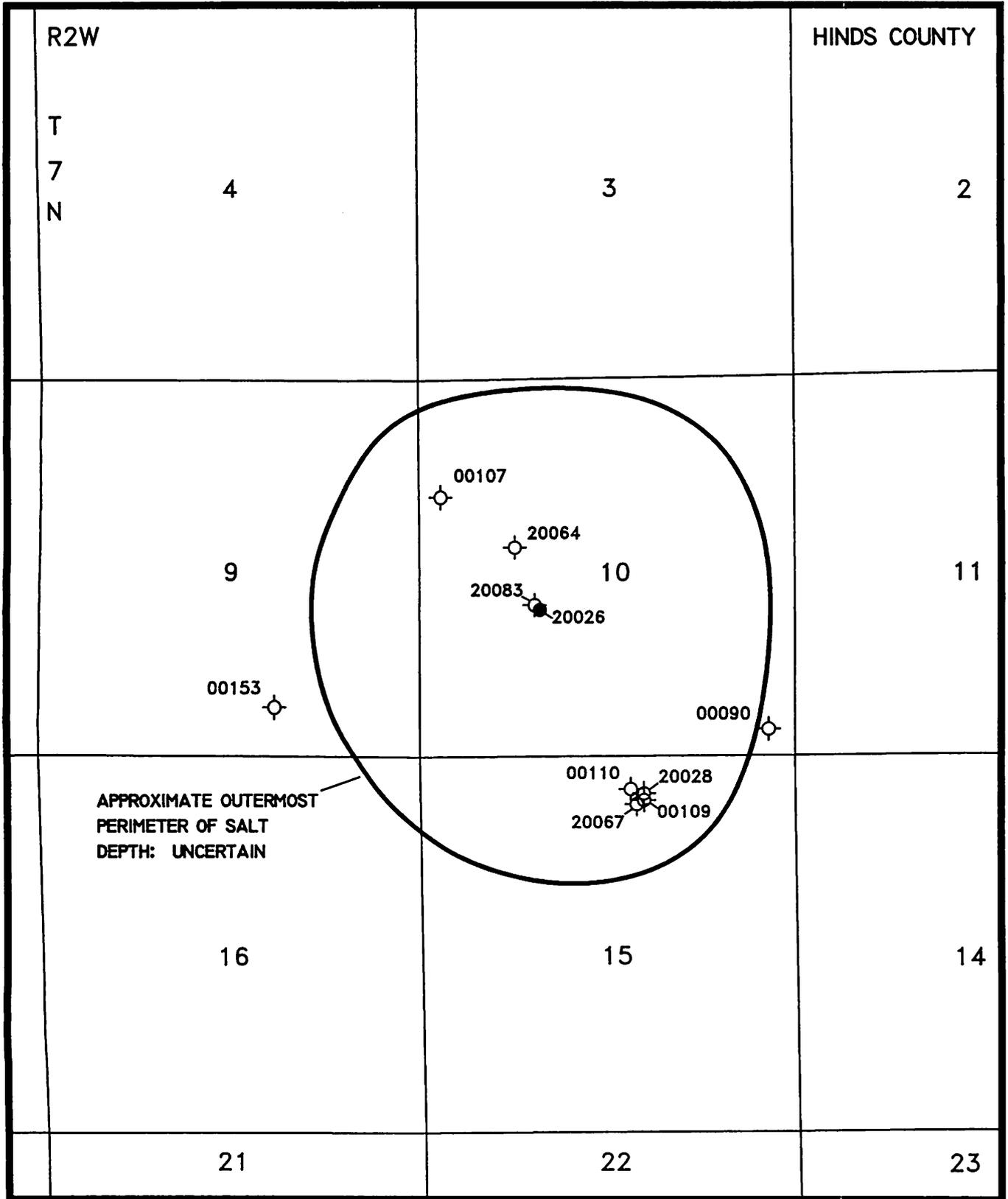
Completed: 12/1974

PRODUCTION

Brownsville Field did not produce prior to 12-31-95.

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BROWNSVILLE DOME
FIGURE 12

BRUINSBURG SALT DOME (WESTSIDE)**GENERAL DATA**

Location: Sections 13,15-T11N-R1E, and Sections 1,2-T11N-R1W, Claiborne County, Mississippi
USGS topographic map(s): St. Joseph
Geophysical data: Good gravity minimum
Estimated size and shape: Irregularly circular, 1 mile diameter
Estimated base fresh water (10,000 ppm): -1,800'
Economic use: Bruinsburg gas field produced from 11/1944 to 4/1967 from the Middle Eocene Cockfield Formation on top of the dome. International Salt Company (now Akzo Nobel Salt Inc.) planned to mine salt in the mid-1960s. International Salt Company drilled test wells, but never produced any salt.
Shallowest known cap rock: 1,629' (Freeport Sulphur Company No. 1 W. R. Hammett)
Shallowest known salt: 2,016' (Freeport Sulphur Company No. 5 W. R. Hammett)
Oldest formation penetrated within one mile of dome: Upper Cretaceous Lower Tuscaloosa Formation (Southern Union Exploration-Paramount Petroleum Company No. 1 Hammett Farms)
Nearest oil or gas production: Abandoned Bruinsburg Field was on the crest of this dome. Alcorn Field, 5 miles southeast, produces from the Lower Cretaceous Washita-Fredericksburg Formation.

DRILLING HISTORY

Discovery well: Freeport Sulphur Company No. 2 W. R. Hammett
API well number: 23-021-00013
Location: 1,691' S and 3,181' W fr E/corner of irregular section 15-T11N-R1E, located in Section 1-T11N-R1W (map no. 1)
Elevation: 77' GL
Total depth: 2,090'
Reported formation tops: (drillers log)
 cap rock 2,055'
 salt 2,065'
Geophysical logs: Schlumberger 320'-2,090'
Comments: Sulphur test
Completed: D&A 3/1944

Additional drilling:

Well: Freeport Sulphur Company No. 1 W. R. Hammett
API well number: 23-021-00012
Location: 2,755' S and 2,121' W from E/cor of Section 15-T11N-R1E, located in Section 13-T11N-R1E (map no. 2)
Elevation: 74' GL
Total depth: 2,068'
Reported formation tops: (drillers log)
 cap rock 1,629'
 salt 2,068'
Geophysical logs: Schlumberger 326'-1,646'
Comments: Sulphur test

Completed: D&A 3/1944

Well: Freeport Sulphur Company No. 4 W. R. Hammett
API well number: 23-021-00015
Location: 3,884' S and 1,435' W of E/corner of Section 15-T11N-R1E, located in Section 13-T11N-R1E (map no. 3)
Elevation: 73' DF
Total depth: 2,045'
Reported formation tops: (drillers log)
 Vicksburg 445' (scout ticket)
 cap rock 1,802'
 salt 2,022'
Geophysical logs: Schlumberger 221'-1,811'
Comments: Sulphur test
Completed: D&A 4/1944

Well: Freeport Sulphur Company No. 5 W. R. Hammett
API well number: 23-021-00016
Location: 2,100' S and 750' W of E/corner of Section 15-T11N-R1E, located in Section 13-T11N-R1E (map no. 4)
Elevation: 76' DF
Total depth: 2,022'
Reported formation tops: (drillers log)
 cap rock 1,775'
 salt 2,016'
Geophysical logs: Schlumberger 180'-1,801'
Comments: Sulphur test
Completed: D&A 4/1944

Well: International Salt Company No. 4 W. R. Hammett
API well number: None assigned
Location: (approximate) from northeast corner of Section 15-T11N-R1E, go S 4,050' and then W at right angles 550' to location in Section 13-T11N-R1E (map no. 5)
Elevation: 73' GL, 83' RT
Total depth: 2,732'
Reported formation tops: (AKZO-NOBEL Salt Inc.)
 caprock 1,801'
 salt 2,046'
Geophysical logs: Gamma Ray-Neutron
Comments: All data provided by AKZO-NOBEL Salt Inc. Salt was cored, details not available. This well was not permitted through the Mississippi State Oil and Gas Board.
Completed: D&A 1963

Well: U. S. Atomic Energy Commission (and International Salt Company No. 1-A W. R. Hammett) (Delta-Western Exploration Company, Inc.) No. 1 Bruinsburg (Exploration Hole)
API well number: 23-021-00051
Location: From NW/corner of Section 13-T11N-R1E, go NE along section line 905', then SE at right angles 650' to location in section 13, or approximately 500' S 80° 35' W from BM (bench mark) 116/1 (map no. 6)
Elevation: 75' GL, 82' DF, 83' KB
Total depth: 3,404'
Reported formation tops: (Mellen)

cap rock 1,772'
salt 2,036'

Geophysical logs: Pan Geo Atlas Corp. Induction-Electrical Log 211'-1,890', AL, G/R, N, Temp

Comments: Drilled for test purposes for the U. S. Atomic Energy Commission. On International Salt Company maps this well is shown as a joint well with International Salt Company and the U. S. Atomic Energy Commission. International Salt Company "whipstocked" (sidetracked) at unknown depth to core.

Completed: D&A 4/1961

Well: Waco Pipeline Company No. 1 Hammett

API well number: 23-021-00044

Location: From N/corner of Section 2-T11N-R1W, go S along township line 1,085' thence E at right angles 70' to location in Section 13-T11N-R1E (map no. 7)

Elevation: 89' DF

Total depth: 1,079'

Reported formation tops: (scout ticket)

Yazoo 515'(?)

Moodys Branch 1,020'(?)

Cockfield 1,059'(?)

Geophysical logs: Schlumberger Induction-Electrical log 198'-1,078'

Comments:

Completed: D&A 6/1963

Well: Forest Oil Corporation No. 1 Hammett Farms

API well number: 23-021-20008

Location: From NE/corner of Section 2, go southerly along section line 1,400', then westerly at right angles 1,400' to location in Section 2-T11N-R1W (map no. 8)

Elevation: 95' DF

Total depth: 6,690'

Reported formation tops: (scout ticket)

Midway 4,713'

chalk 5,245'

Upper Tuscaloosa 6,155'

Geophysical logs: Schlumberger DIL-Sonic Log 1,112'-6,284', Continuous Directional

Comments: Took 24 sidewall cores 2,661'-4,551', all no show.

Completed: D&A 9/1977

Well: Forest Oil Corporation No. 2 Hammett Farms

API well number: 23-021-20009

Location: From NE/corner of section 2, go southerly along section line 1,550', then westerly at RA 1,400' to location in Section 2-T11N-R1W (map no. 9)

Elevation: 98' DF, 112' DF, 113' KB (all elevations carried as estimated on log heading)

Total depth: 6,941'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Wilcox 2,710'

Midway 4,740'

chalk 5,635'

Upper Tuscaloosa 6,105'

cap rock 6,700'
salt 6,873'

Geophysical logs: Schlumberger DIL-Sonic Log 1,141'-6,938', Continuous Directional

Comments: Took 30 sidewall cores, all no show.

Completed: D&A 9/1977

Well: Freeport Sulphur Company No. 3 W. R. Hammett

API well number: 23-021-00014

Location: 3,213' S and 3,522' W of E/cor of section 15-T11N-R1E, located in Section 2-T11N-R1W (map no. 10)

Elevation: 74' DF

Total depth: 2,430'

Reported formation tops: (drillers log)

cap rock 2,044'

salt 2,318'

Geophysical logs: Schlumberger 222'-2,430'

Comments: Sulphur test

Completed: D&A 4/1944

Well: International Salt Company No. 2 W. R. Hammett

API well number: None assigned

Location: (approximate) From northeastern corner of Section 15-T11N-R1E, go S 650', then W at right angles 3,400' to location in Section 2-T11N-R1W (map no. 11)

Elevation: 77' GL, 86' RT

Total depth: 2,540'

Reported formation tops:

Geophysical logs:

Comments: All information provided by AKZO-NOBEL Salt Inc. Did not penetrate domal material. Cored 1,765'-800', 2,344'-55', and 2,400'-10'. This well was not permitted through the Mississippi State Oil and Gas Board.

Completed: D&A 1963

Well: International Salt Company No. 3 W. R. Hammett

API well Number: None assigned

Location: (approximate) From northeastern corner of Section 15-T11N-R1E, go S 3,350' then W at right angles 3,750' to location in Section 2-T11N-R1W (map no. 12)

Elevation: 71' GL, 81' RT

Total depth: 2,733'

Reported formation tops: (AKZO-NOBEL Salt Inc.)

cap rock 1,672'

salt 2,066'

Geophysical logs: Gamma Ray-Neutron Log

Comments: All information provided by AKZO-NOBEL Salt Inc. Cored unknown interval of salt. This well was not permitted through the Mississippi State Oil and Gas Board.

Completed: D&A 1963

Well: International Salt Company No. 5 W. R. Hammett

API well number: None assigned

Location: (approximate) From northeast corner of Section 15-T11N-R1W go S 2,000' then W at right angles 2,850' to location in Section 2-T11N-R1W (map no. 13)

Elevation: 76' GL, 86' RT

Total depth: 2,056' (drillers log depth)

Reported formation tops: (drillers log-AKZO-NOBEL

Salt Inc.)
cap rock 1,922'
salt 2,056'

Geophysical logs:

Comments: All information provided by AKZO-NOBEL Salt Inc. Although shown in Section 1-T11N-R1W, this well was believed to be in Section 2-T11N-R1W when drilled. See the note on base map at the end of the well descriptions for this dome. This well was not permitted through the Mississippi State Oil and Gas Board.

Completed: 1963-1965 (Mellen)

Well: James R. Hodges (Hugh Horn) No. 1 Hammett Farms

API well number: 23-021-20007

Location: From most northerly corner of section 2, go S 1,170' then W 1,080' to location in Section 2-T11N-R1W (map no. 14)

Elevation: 77' GL, 83' DF

Total depth: 958'

Reported formation tops:

Geophysical logs: Charlene Well Surveying Company Electric Log 217'-957', Radioactivity Log 10'-499'

Comments: Completed flowing unestimated amount gas, 1/8" choke, 0-10# TP, 0-40# CP from perforations 279'-89', 296'-306', and 417'-22', reported as Cf (Cockfield) on the scout ticket and as Catahoula in the Mississippi State Oil and Gas Board well file.

Completed: 3/1977

Well: Roy A. Plessala, Jr. No. 1 Hammett Farms

API well number: 23-021-20021

Location: Commencing at the section corner common to Sections 1 and 2, T11N-R1W, and Sections 13 and 15, T11N-R1E, Claiborne County, Mississippi, run thence southwesterly along the section line common to said sections 1 and 2, T11N-R1W, for 1,851.0 feet, thence southeasterly at right angles for 235.0' to well location in Section 2-T11N-R1E (map no. 15)

Elevation: 77' GL (topographic map)

Total depth: 700'

Reported formation tops:

Geophysical logs: Not logged

Comments: Drilled to 700', stuck drill pipe and lost hole. Left bit, drill collars, and 2 7/8" drill pipe in hole.

Completed: D&A 8/1983

Well: Southern Union Exploration-Paramount Petroleum Company No. 1 Hammett Farms

API well number: 23-021-20028

Location: From NE/corner (of Section 2) go S along section line 2,911', then W 1,795' to location in Section 2-T11N-R1W (map no. 16)

Elevation: 77' GL, 88' DF, 89' KB

Total depth: 8,517'

Reported formation tops: (scout ticket)

Cockfield	1,788'
Claiborne	2,600'
Wilcox	3,131'
Midway	5,528'

Selma 6,396'

Eutaw 7,240'

Lower Tuscaloosa 8,222'

Geophysical logs: Schlumberger Dual Induction-TVD 1,522'-8,008', ISF/Sonic 1,522'-8,008', Lithodensity w/GR 1,522'-5,600', Dipmeter

Comments:

Completed: D&A 7/1989

Well: Sun Oil Company No. 1 W. R. Hammett

API well number: 23-021-00040

Location: Begin at E/corner of Section 15-T11N-R1E, thence S 3,392' thence W 3,696' to location in Section 2-T11N-R1W (map no. 17)

Elevation: 77' GL (topographic map)

Total depth: 1,837'

Reported formation tops:**Geophysical logs:**

Comments: Cored 1,827'-37', well blew out while coming out of hole with core and with 580' of drillstem in hole. Well made black water (reported salty) and gas - no trace of oil reported. Well bridged over.

Completed: D&A 7/1944

Well: Sun Oil Company No. 1-A W. R. Hammett

API well number: 23-021-00033

Location: Begin at E/corner of irregular Section 15-T11N-R1E, go S 3,357', thence W 3,731' to location in Section 2-T11N-R1W (map no. 18)

Elevation: 89' DF

Total depth: 2,328'

Reported formation tops:

Jackson	670'
Moodys Branch	927'
Cockfield	967'
Cook Mountain	1,440'
Camerina	1,486'
salt	2,318'

Geophysical logs: Schlumberger Composite Log 546'-2,328'

Comments: Sand with gas show at 645', (apparently flowing), squeezed formation with 50 sacks cement. Drilled out cement to 638', unable to shut off gas.

Cored 1,935'-2,214', from 2,178'-85' recovered shale and sand with gas odor.

Drillstem test 1,935'-2,185', recovered 1,740' drilling mud with bottom 90' cut with salt water and gas; 2,002'-08', recovered 450' muddy water and 990' salty water.

Set casing to 1,935', plugged back to 1,585'. Perforated 935'-45' well flowing estimated 5,000,000 CFGPD. Completed on 2 hour gauge, flowed at rate of 1,200 MCFGPD, 24/64" choke, TP 400#, CP 400#. Discovery well for Bruinsburg Field. Cleaned out and recompleted by Hale Roberts, John Roberts, and Howard Richardson, 9/1961, from perforations 935'-945', for 1,000 MCFGPD, 3/16" choke, 390# TP, 390# CP. John Roberts and Howard

Richardson are also principals of Waco Pipeline Company, which re-entered several other wells in Bruinsburg Field. Mellen reported no caprock present.

Completed: 12/1944

Well: Waco Pipeline Company (Sun Oil Company) No. 2 W. R. Hammett

API well number: 23-021-00031

Location: Begin at E/corner of irregular Section 15-T11N-R1E, go S 3,823', then W 4,198' to location in Section 2-T11N-R1W (map no. 19)

Elevation: 77' GL (topographic map), 86'? (scout ticket)

Total depth: 4,425'

Reported formation tops:

Geophysical logs:

Comments: This well was directionally drilled beneath a slight overhang on the west flank of the dome, to total depth in steeply dipping Wilcox.

Cored 2,300'-3,075', no details available; 3,685'-785', recovered sand and shale with no show, (pulled derrick in while coring); 3,790'-850', no details available; 3,895'-900', no recovery; 3,900'-05', recovered 3' shale and siltstone, 2' sand with no show; 3,905'-20' (3 cores), recovered 15' shale; 3,920'-25', recovered 2' black shale; 3,925'-30', recovered 1" black shale, 7" sand with no show; 3,930'-34', no recovery; 3,934'-43' (2 cores), recovered 2.5' shale; 3,943'-58' (4 cores), recovered 7' 4" sand with no show; 3,958'-63', no recovery; 3,963'-68', recovered 1' shale; 3,968'-78' (2 cores), recovered 5' sand with no show; 3,978'-88' (2 cores), recovered 8' sandstone with no show; 3,988'-93', recovered 3' shale and 2' sandstone with no show; 3,993'-98', recovered 4' 8" shaly sand and sandy shale; 3,998'-4,009' (2 cores), recovered 8.5' shale; 4,011'-15', recovered 4' shale; 4,015'-55' (8 cores), recovered shale (no amount given); 4,055'-60', recovered 6" shaly sand; 4,060'-72' (3 cores), no recovery; 4,075'-90' (3 cores), recovered 10' sand with no show; 4,090'-95', recovered 1.5' shale and sand; 4,095'-4,110' (3 cores), recovered 12' sand with no show; 4,110'-15', recovered 6" sand and 6" black shale; 4,115'-25' (2 cores), recovered 1.5' sandstone; 4,125'-30', recovered 3" sand with no show; 4,130'-40', recovered 1' sandstone; 4,140'-45', recovered 2.5' sand with oil odor and slight stain; 4,145'-49', recovered 5" sand with oil odor and slight stain, 3" sand with no show; 4,149'-54', recovered 1' sand with no show; 4,154'-64' (2 cores), recovered 8' sand and shale with no show; 4,164'-69', recovered 1' shale, 2' sandstone; 4,169'-84', recovered 6.5' shale; 4,184'-94' (2 cores), recovered 5' sand and sandy shale with no show; 4,194'-214' (4 cores), recovered 15.5' shale; 4,214'-24' (2 cores), recovered 8' shale; 4,224'-29', recovered 1' shale and sandy shale; 4,229'-34', recovered 1' sand and sandy shale with no show; 4,234'-39', recovered 4' sand with no show; 4,239'-49', recovered (?); 4,249'-64', recovered 7.5' sand with no show; 4,264'-79' (3 cores), recovered 10' shale; 4,279'-84', recovered 8" lignite, 10" shale and 8" sand with no show; 4,284'-89', recovered 5' shale and sandstone; 4,289'-94', recovered 2' shale with sandy streaks; 4,294'-99', recovered 6" shale; 4,299'-304', recovered 3.5'

lignitic shale, 6" sand with no show; 4,347'-57' (2 cores), recovered 3' shale; 4,357'-60', recovered 1' 3" shale and 1' 3" sandstone; 4,360'-80' (4 cores), recovered 20' 2" sandstone, salty; 4,380'-85', recovered 6" sandstone, salty and 2' lignite; 4,385'-90', recovered 1' lignite, 4" shale; 4,390'-405' (3 cores), recovered 10.5' sand with no show; 4,405'-20', recovered 1' lignite, 4" shale; 4,390'-405' (3 cores), recovered 10.5' sand with no show; 4,405'-20' (3 cores), recovered 12' shale; 4,420'-25', recovered 1' sandy shale, 2' lignite.

Drillstem test 1,445'-50', recovered 550' salt water; 3,019'-25', recovered 990' salt water, 60' mud with no show; 4,134'-54', recovered 420' mud and salt water, 1,695' salt water.

Completed: D&A 11/1945 by Sun Oil Company. Worked over by Hale Roberts, John Roberts and H. Richardson, 9/1961. Completed flowing 500 MCFGPD, 24 BSWPD, 12/64" choke, 350# TP, 350# CP, from perforations 932'-42'.

Well: Waco Pipeline Company (Sun Oil Company) No. 3 W. R. Hammett

API well number: 23-021-00032-0001

Location: 3,505' S and 3,880' W from E/corner of Section 15-T11N-R1E, located in Section 2-T11N-R1W, also N 45° E 450' from well (Sun Oil Company) no. 2 (W. R. Hammett) (map no. 20)

Elevation: 86' DF

Total depth: 5,646'

Reported formation tops:

original hole:

Vicksburg shale	445'
Vicksburg lime	476'
Moodys Branch	872'
Cockfield	896'
Cook Mountain	1,394'
Camerina	1,425'
Sparta	1,520'
false cap rock	2,038'-2,166'
Winona	2,500'
Tallahatta	2,598'
Wilcox	2,653'
1st sidetrack hole:	
Zilpha	2,175'
Winona	2,475'
salt	2,650'

Geophysical logs:

Comments: Original hole:

Cored 2,636'-38', recovered 1' 4" ashy, salty sand; 2,640'-46', recovered 6' shale; 2,656'-61', recovered 4.5' soft sand with slight odor, 1' hard sand; 2,689.5'-90', recovered 1.5' sandstone (as reported on scout ticket); 2,694'-99', no recovery; 2,699'-99' 2", recovered 1.5" soft, gray, medium grain sand with gas and sulphur odor, 0.5" shale; 2,718'-23', recovered 6.5' medium fine grain sand with strong sulphur odor, no salt water; 2,723'-28', recovered 7' medium fine grain sand with strong sulphur odor, no salt water; 2,778'-78.5', recovered 0.5' shale with pyrite and sulphur odor;

2,791'-96', recovered 5' shale with streaks of silty sand, gas odor and 90° dip; 2,808'-13', recovered 8" shale and lignite with gas odor; 2,813'-18', recovered 8' 8" (as reported on scout ticket) shale with strong gas odor; 2,824'-26', recovered 2' shale with lignite, 85° dip; 2,848'-53', recovered 5' shale with pyrite; 2,880'-85', recovered 2.5' shale with gas odor, 90° dip, 3' salty sandstone; 2,902'-07', recovered 1' shale; 2,992'-96', recovered 1' fine grain sand, 2' shale, gas odor.

Drillstem test 1,355'-427', recovered 180' drilling mud and 1,037' salt water cut with gas; 1,526'-90', recovered estimated 1,200' salt water and 100' mud; 2,632'-46', recovered 960' salt water with sulphur odor.

Shut down and moved out rig due to high water 1/10/1946-6/9/1946. Original hole total depth 3,002'. Set whipstock at 2,379' and sidetracked.

1st sidetrack hole:

Cored 2,532'-35', recovered 4' shale; 2,535'-40', recovered 1' 4" shale, part with sulphur odor, 2" sand with salty taste; 2,601'-06', recovered 3.5' sand with shale streaks and salty taste, 1.5' sand, salty with sulphur odor; 2,610'-15', recovered 5' sand with shale streaks and sulphur odor, salty taste. At total depth 2,655', set cement plug to sidetrack. Sidetracked at 2,380'.

2nd sidetrack hole:

Cored 2,611'-16', recovered 4' 3" shale; 2,616'-21', recovered 5' shale with 50° dip; 2,621'-26', recovered 1.5' shale; 2,626'-31', recovered 5' shale; 2,651'-56', recovered 2' waxy shale with sulphur odor; 2,689'-94', recovered 3' sandstone, salty; 2,700'-05', recovered 3.5' sand, shaly and salty, 80°-85° dip; 2,736'-40', recovered 1' sandstone with 85° dip, 2.5' sandy shale with sulphur odor, 1' shale; 2,808'-13', recovered 8" sand with 80° dip; 2,813'-13.5', recovered 0.5' sand; (2' depth correction, 2,876'=2,878'); 2,969'-74', recovered 4' shale; 3,009'-14', recovered 3' sandstone, salty with 45°-50° dip; 3,057'-62', recovered 5' sandstone, carbonaceous with 60° dip; 3,158'-63', recovered 3' sand with shale streaks, 2' shale with 80° dip; 3,295'-3,300', recovered 4' salty sandstone; 3,414'-19', recovered 4' salty sand with 65° dip, 1' sandy shale; 3,564'-69', recovered 4.5' sand and shale, 1.5' sand with 65° dip; 3,602'-07', recovered 2.5' shale, part with 60° dip; 3,652'-57', recovered 2' salty sand with shale streaks; 3,677'-82', recovered 5' sand with shale streaks, salty; 3,627'-32', recovered 2" shale, 1' 10" sand; 3,734'-39', no recovery; 3,865'-70', no recovery; 3,870'-70.5', recovered 6" sand and sandy shale with no show; 3,870.5'-75', recovered 4.5' salty sand; (11' depth correction, 3,811'=3,800'); 3,973'-78', recovered 5' salty sand; 4,181'-85', recovered 6" sand with no show; 4,185'-90', recovered 5' shale with streaks silty sand; 4,275'-80', recovered 2' salty sand, 3' sand with sandy shale streaks with 45°-50° dip.

Set whipstocks at 4,280', 4,334', and 4,372' (apparently to control hole direction).

Cored 4,432'-37', recovered 2' soft shale; 5,338'-43', recovered 6" sandstone; 5,343'-45', recovered 2' sandstone and glauconite; 5,377'-84', recovered 4.5' shaly sand, 6" soft shale; 5,574'-79', recovered 1.5' shale; 5,579'-85', recovered 4" shale; (7' depth correction, 5,585'=5,578'); 5,636'-41', recovered 1' salt; 5,641'-46', recovered 3" salt. Total depth 5,646'. Set cement plug. Sidetracked at 4,678'.

3rd sidetrack hole:

Total depth 5,373' in shale. Stuck drillstem at 3,126', cut and pulled to 2,658'.

"Drilled to 3,002' in normal but steep dipping Wilcox beds. The well was plugged back and deviated easterly into the salt to 1,657' (in salt). A second deviation, under a sl (salt?, slight?) overhang, passed from Tuscaloosa shale into salt at 2,657'. After this plug back the well was deepened as a straight hole to 5,646', logged to 5,573'. Salt was encountered at 5,632'. (Because hole was deviated, near bottom it checked 385°N 50°E of surface location - t. v. d. on salt would be 5,592'." (Mellen)

Completed: D&A 3/1944. Re-entered and washed down to 965' by Hale Roberts, John Roberts, and H. Richardson, and completed for 773 MCFGPD, 20/64" choke, 390# TP from perforations 898'-906' on 9/28/1961.

Note on base map:

Unlike the base maps for all the other 52 salt domes included in this atlas, the Bruinsburg Dome base map was not made from a U. S. G. S. topographic map. Plotting of well locations on the topographic map resulted in many of the wells located in Section 2-T11N-R1W falling in Section 1-T11N-R1W. Obviously these wells were originally located with data different from that used to make the topographic map, which is a provisional version. Maps from AKZO-NOBEL Salt Inc., formerly International Salt Company, Edgar Tobin Aerial Surveys, and Paramount Petroleum Company, Inc. were compared with the U. S. G. S. topographic map. Most section lines were inconsistent with each other as to azimuth and length on all of the maps examined. The map by Paramount Petroleum Company, Inc. was chosen as being probably most accurate. Also, the individual responsible for constructing this map was interviewed and was determined to have built the map by researching courthouse land records for accuracy.

PRODUCTION

Cumulative Production
abandoned 04/01/1967

Gas (MCF)

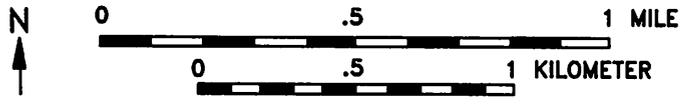
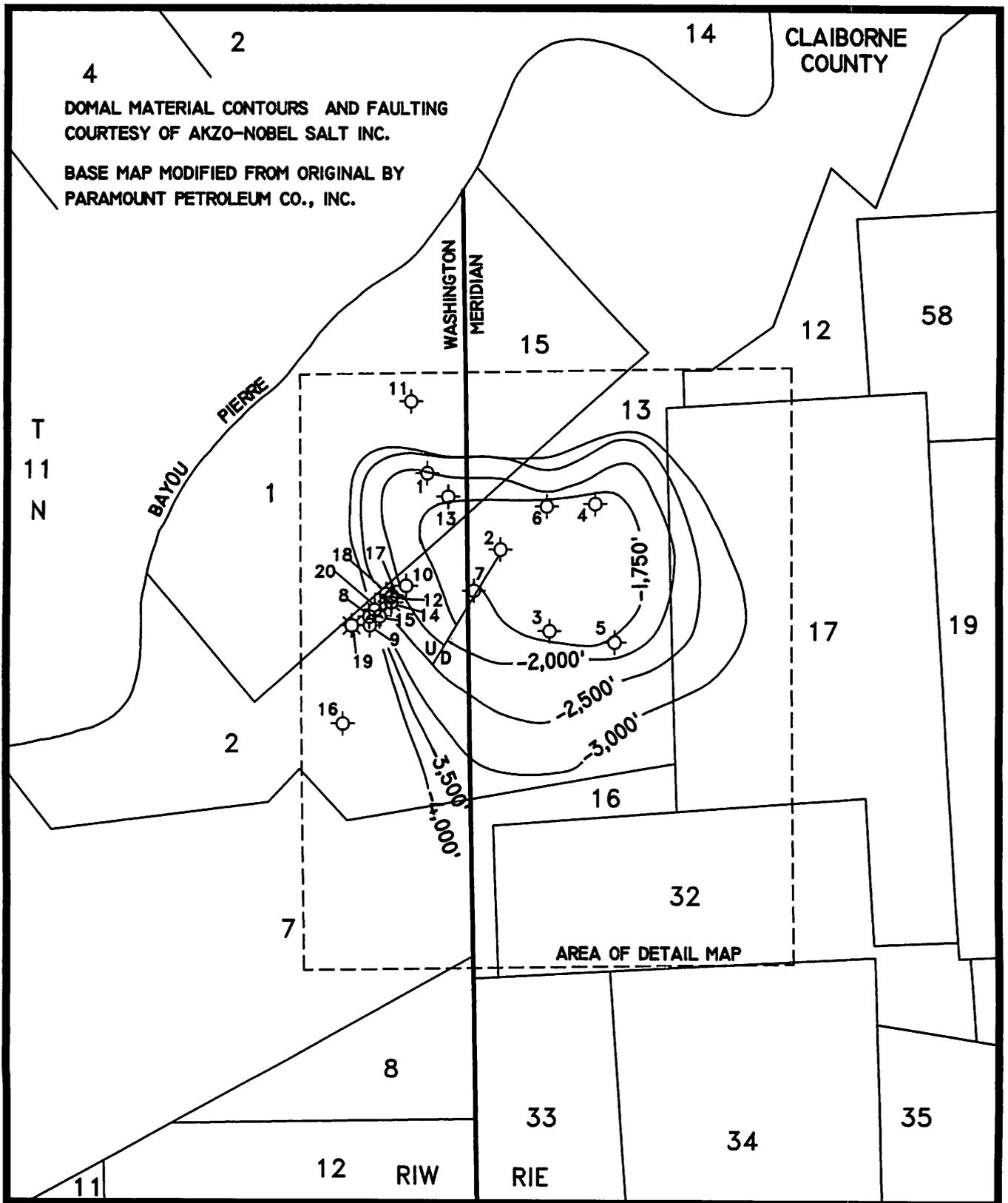
Bruinsburg Field

Cockfield 540,043

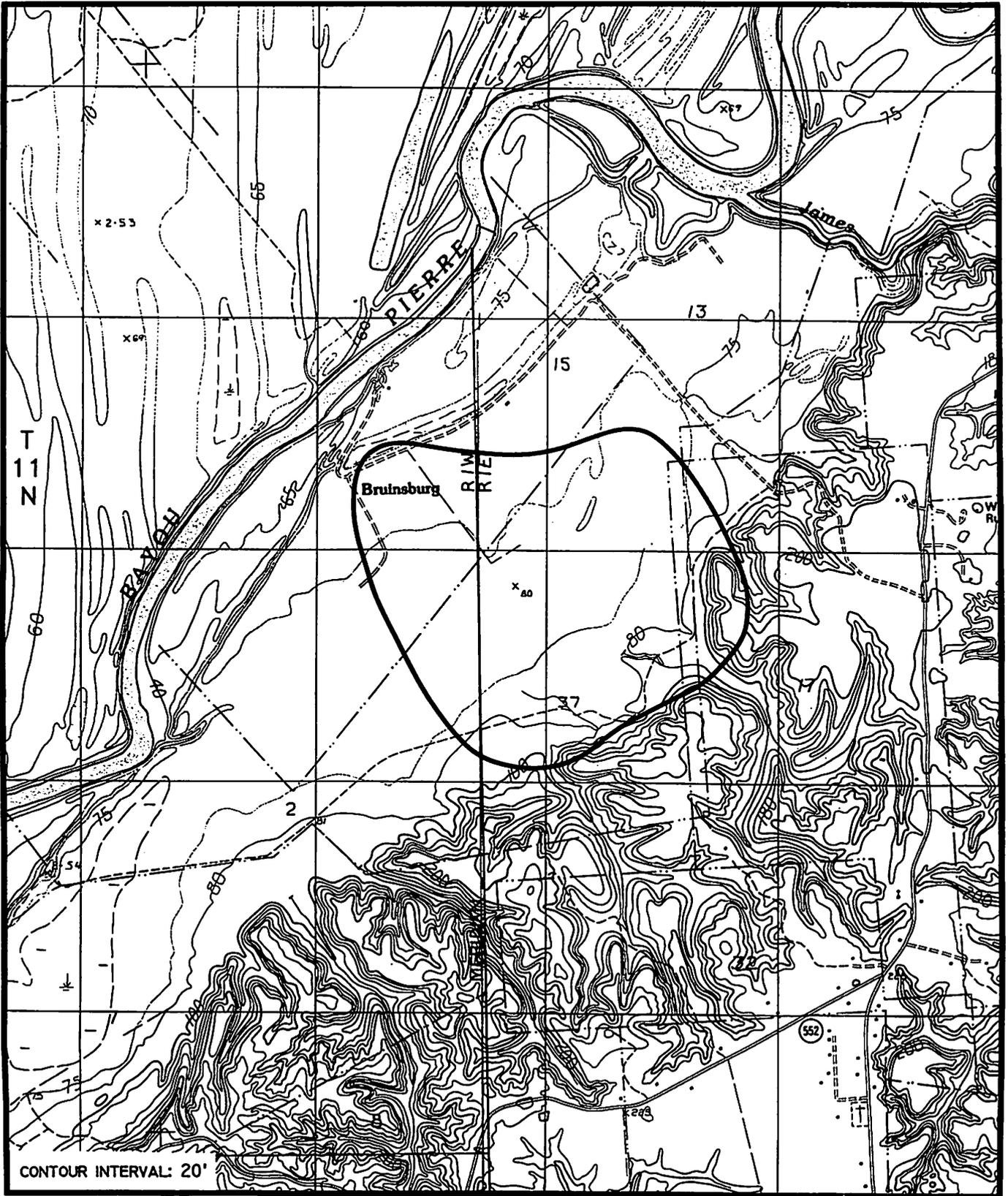
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BRUINSBURG DOME
FIGURE 14



BRUINSBURG DOME

FIGURE 16

BYRD SALT DOME

GENERAL DATA

Location: Sections 16,17,20,21-T3N-R7W, Greene County, Mississippi
USGS topographic map(s): Jonathan
Geophysical data: Prominent gravity minimum
Estimated size and shape: Approximately circular, 1.2 miles in diameter
Estimated base fresh water (10,000 ppm): -1,300'
Economic use: None to date
Shallowest known cap rock: 1,516' (Humble Oil & Refining Company No. 1 Greene County Board of Supervisors (School Land))
Shallowest known salt: 2,058' (Humble Oil & Refining Company No. 1 Greene County Board of Supervisors (School Land))
Oldest formation penetrated within one mile of dome: Comanche (Lower Cretaceous) (Humble Oil & Refining Company No. 2 Harry Stover (et al.))
Nearest oil or gas production: Sandhill Field, 6 miles northwest, produces from the Upper Cretaceous Upper Tuscaloosa Formation.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. A-1 School Land (Greene County)
API well number: 23-041-00019
Location: 1980' N and 660' E from SW/corner of Section 16-T3N-R7W
Elevation: 250' GL
Total depth: 2,135'
Reported formation tops: (drillers log)
 cap rock 1,637'
 shale & anhydrite 1,691'
 anhydrite 1,721'
 salt 2,119'
Geophysical logs: Schlumberger electrical log 131'-2,134'
Comments:
Completed: D&A 7/1943

Additional drilling:

Well: Exploro Corporation No. 1 Greene County School Land(s)
API well number: 23-041-00014
Location: 1,757' S and 1,938' E of NW/corner of Section 16-T3N-R7W
Elevation: 242' GL (topographic map), 245' (?) (Mississippi State Oil and Gas Board well file)
Total depth: 2,793'
Reported formation tops: (drillers log)
 anhydrite 2,723'
Geophysical logs: "Logged to 2,514'." (Mellen)
Comments: Sulphur test
Completed: D&A 9/1944

Well: Exploro Corporation No. 2 Greene County School Land
API well number:
Location: 1,990' S and 330' E of NW/corner of Section 16-T3N-R7W (map no. 3)
Elevation: 260' GL (topographic map), 257' (?) (Mellen)
Total depth: 1,529'?
Reported formation tops: "No tops available" (Mellen)
Geophysical logs: "Although this well may have been drilled deeper, the log goes only to 1,529'." (Mellen)
Comments: This well is reported only by Mellen, and does not appear on any commercial base maps. The Mississippi State Oil and Gas Board has no record of this well.
Completed: 10/1944

Well: Humble Oil & Refining Company No. 1 Greene County Board of Supervisors (School Land)
API well number: 23-041-00030
Location: 2,500' FNL and 330' FWL of Section 16-T3N-R7W
Elevation: 252' DF
Total depth: 5,573'
Reported formation tops: (Mellen)
 cap rock 1,516'
 anhydrite 2,026'
 salt 2,058'
Geophysical logs: Schlumberger Composite Log 33'-2,070'
Comments: Cored 950'-1,030', recovered shale and shells with no show. Flowed sulphur water at 1,585'. Drilled in salt to total depth and ran velocity survey.
Completed: D&A 12/1944

Well: Humble Oil & Refining Company No. 2 Board of Supervisors of Greene County (Greene County School Land) (School Land)
API well number: 23-041-00031
Location: 1,600' FNL and 2,300' FEL of Section 16-T3N-R7W
Elevation: 239' GL, 247' DF
Total depth: 7,736'
Reported formation tops: (scout ticket)
 Midway 3,379'
 Selma 4,027'
 1st Eutaw sand 4,770'
 Tuscaloosa 5,043'
 Marine Tuscaloosa 5,480' (?)
 Lower Tuscaloosa 5,600'
 Lower Cretaceous 6,208'-38'
 anhydrite 7,112'
 salt 7,716'
Geophysical logs: Schlumberger Composite Log 35'-7,478'
Comments: Cored 5,043'-48', recovered 5' sand, shale and chalk with no show; 5,048'-58', recovered 10' sandy shale and chalk; 5,058'-63', recovered 4' sandy shale and chalk; 5,063'-68', recovered 5' sandy shale and chalk; 5,068'-78',

recovered 10' shale; 5,078'-88' recovered 9' shale; 5,088'-98', recovered 10' shale and chalk; 5,098'-5,108', recovered 6' shale and chalk; 5,108'-18', recovered 10' sandy shale and chalk; 5,118'-28', recovered 10' sandy shale; 5,128'-38', recovered 5' shale, 1' sand; 5,138'-43', recovered 2.5' sand, salty; 6,460'-500' (4 cores), recovered sand and shale with no shows; 6,500'-40' (4 cores), recovered 35' fine grained, calcareous white sand with shale streaks, salt water; 7,595'-652' (6 cores), recovered 40.5' anhydrite; 7,721'-36' (2 cores), recovered 14' salt.

Attempted 18 sidewall cores 4,720'-7,474', recovered 8, 5,830'-7,470', all no show.

Completed: D&A 6/1946

Well: Exploro Corporation No. 1 Mark Wolff

API well number: 23-041-00015

Location: 1,203' W and 1,390' S of NE/corner of Section 17-T2N-R7W

Elevation: 290' GL (topographic map), 288' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 2,535'

Reported formation tops: (drillers log)

sandy limestone and some pyrite 2,378'

anhydrite 2,435'

shale and sand 2,478'

anhydrite 2,503'

Geophysical logs: "Logged to 2,012'." (Mellen)

Comments: Sulphur test

Completed: D&A 9/1944

Well: Exploro Corporation No. 2 Mark Wolff

API well number: 23-041-00016

Location: 306' N and 49' W of SE/corner of Section 17-T3N-R7W

Elevation: 265' GL (topographic map), 256' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 3,000'

Reported formation tops:

anhydrite & salt 2,994'-3,000' (drillers log)

cap rock 2,984' (Mellen)

anhydrite 2,993' (Mellen)

Geophysical logs: "Logged to 2,872'." (Mellen)

Comments: Sulphur test

Completed: D&A 10/1944

Well: Exploro Corporation No. 3 Mark Wolff

API well number: 23-041-00017

Location: 900' N and 150' W of SE/corner of Section 17-T2N-R7W

Elevation: 265' GL (topographic map), 257' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 2,060'

Reported formation tops: (drillers log)

cap rock 1,925'

anhydrite 1,960'

Geophysical logs: "Logged to 1,517'." (Mellen)

Comments: Sulphur test

Completed: D&A 10/1944

Well: Humble Oil & Refining Company No. 1 Harry Stover (et al.)

API well number: 23-041-00032

Location: 435' W and 673' S of NE/corner of Section 20-T3N-R7W

Elevation: 248' DF (log heading), 250' DF (Mississippi State Oil and Gas Board well file)

Total depth: 6,883'

Reported formation tops: (scout ticket)

original hole:

anhydrite 5,665'

cap rock 5,618'

anhydrite 5,726' (Mellen)

salt 5,849' (Mellen)

1st sidetrack hole

chalk 5,120' (driller)

3rd sidetrack hole

Midway 3,900'

chalk 5,130'

Geophysical logs: Schlumberger Composite Log 50'-5,845' original hole; 4,850'-5,996' third sidetrack hole; 5,996'-6,757' (fourth sidetrack hole?)

Comments: Original hole:

Cored 2,000'-177' (19 cores), no show; 4,815'-25', recovered 3.5' shale and chalk; 4,825'-942', recovered chalk; approximately 5,802' (exact depth undisclosed).

Drillstem test 2,153'-77', recovered 1,950' salt water with no show.

Took 8 sidewall cores 2,253'-3,432', recovered green sand with no shows.

Depth correction 5,904'=5,786'. Set plug and prepared to sidetrack 4/1945. Total depth 5,983' in salt.

1st sidetrack hole:

9/1945, drilled out cement at 3,160', set whipstock and sidetracked. Drilled to total depth 5,911' in shale.

2nd sidetrack hole:

10/18/1945, set whipstock at 5,663'. Drilled to total depth 5,718' in shale.

3rd sidetrack hole:

10/25/1945, plugged back and sidetracked at 4,950'. Drilled to total depth 6,883' in shale. At 6,353' survey shows hole 492' S and 74' W of surface location. Set cement plug 6,614'-822'. Drilled out cement to 6,651', set whipstock (4th sidetrack hole?) and drilled to 6,757', ran Schlumberger and drilled out to 6,792'. Set cement plug 6,000'-846', drilled out to 6,850'.

Completed: D&A 12/1945

Well: Humble Oil & Refining Company No. 2 Harry Stover (et al.)

API well number: 23-041-00033

Location: 2,150' FNL and 525' FEL of Section 20-T3N-R7W

Elevation: 254' (Mississippi State Oil and Gas Board well file), 261' DF

Total depth: 9,787'

Reported formation tops: (scout ticket)

Jackson	1,473'
Zilpha	1,945'
Winona	2,128'
Wilcox	2,390'
Midway	4,800'
chalk	5,476'
massive (sand-	
Lower Tuscaloosa)	8,328'
Comanche	
(Lower Cretaceous)	9,050'

Geophysical logs: Schlumberger Composite Log 35'-9,787'

Comments: Cored approximately 2,320', exact interval undisclosed; 7,025'-162', recovered shale and sandy shale with no show; 7,162'-369', recovered shale and sandy shale with no show; 7,369'-584', recovered sand and shale with no show; 8,303'-85', (no rock type given) no show; 8,437'-62', recovered sand and shale with no show; 8,462'-92', recovered shale; 8,492'-515', recovered sand with no show.

Took 14 sidewall cores 7,414'-687', all no show; 12 sidewall cores 8,405'-792', recovered green sand, all no show; 11 sidewall cores 9,313'-9,740', all no show.

Drillstem test 2,436'-63', recovered 100' mud and 2,200' salt water; 7,440'-68', recovered 3,000' water cushion, 270' mud, and 3,420' salt water; 8,496'-515', recovered 4,000' water cushion, 90' mud, and 3,965' salt water.

Completed: D&A 8/1945

Well: Humble Oil & Refining Company No. 3 Harry Stover (et al.)

API well number: 23-041-00034

Location: 1,300' S and 450' W of NE/corner of Section 20-T3N-R7W

Elevation: 256' DF

Total depth: 8,767'

Reported formation tops: (scout ticket)

Wilcox	2,320'
Midway	4,417'
Selma	5,235'
Austin	6,150'
Eutaw	6,732'
1st Sand (Eutaw)	6,960'
marine Tuscaloosa	7,650'
Lower Tuscaloosa	7,970'
massive sand	
(Lower Tuscaloosa)	8,238'

Geophysical logs: Schlumberger Composite Log 50'-8,767'

Comments: At 6,614' hole was 1.45° off vertical. Set whipstock at 6,614' and drilled out at 6,636'. By directional, whipstocks were set at 6,614', 6,651', and 6,820'. At 7,222' hole was 161' N and 4' E of surface location.

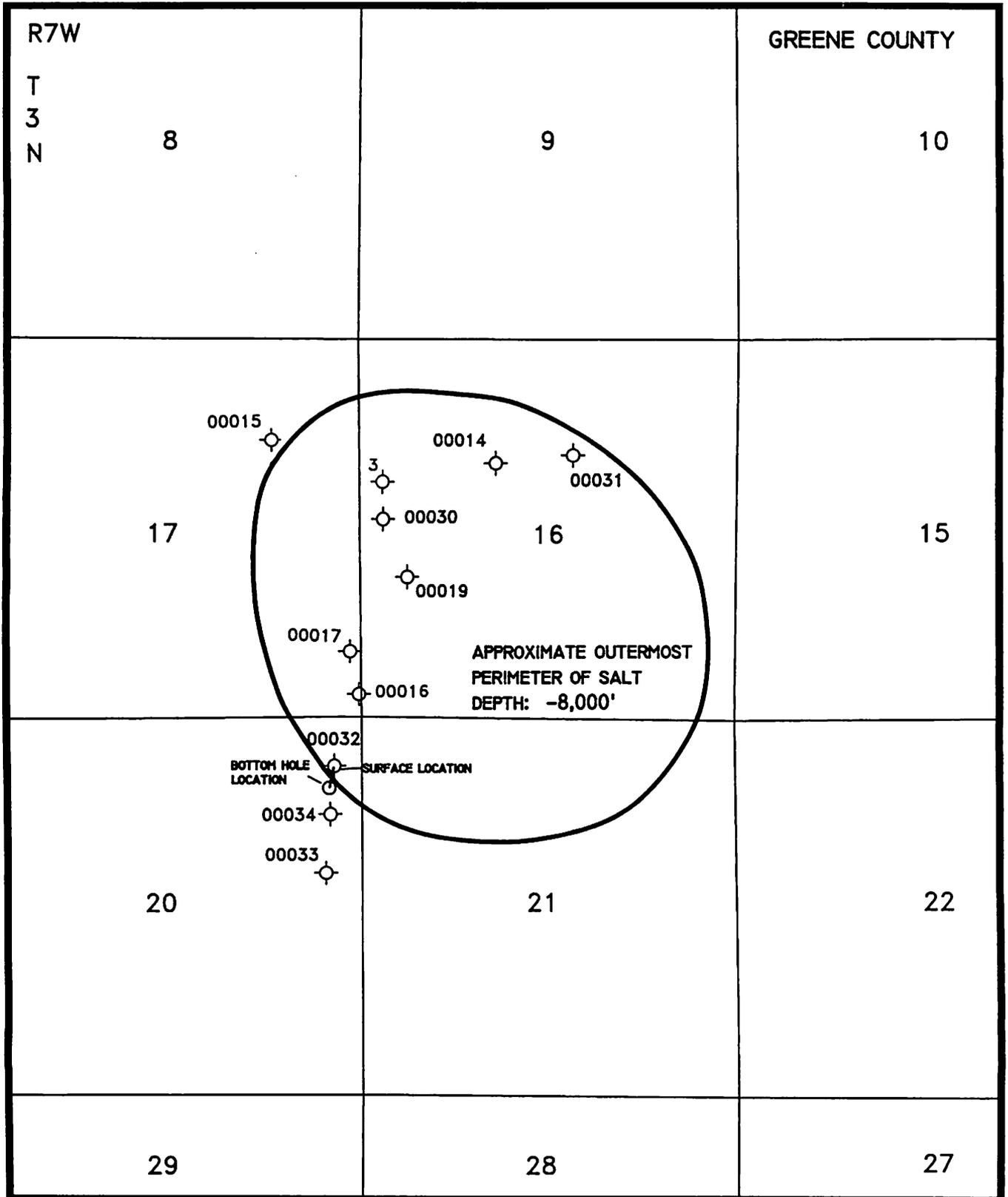
Cored 7,071'-80', recovered 7' salt water sand; 8,000'-40' (5 cores), recovered 17' salt water sand; 8,143'-58' (2 cores), recovered 4' shale; 8,158'-68', recovered 4' shale and sand with no show; 8,168'-73', recovered 5' sand with no show; 8,449'-54', recovered 4.5' sand with no show; 8,454'-62', recovered 2' sand and shale with no show; 8,462'-78' (2 cores), recovered 5.5' sand and lignite with no show.

Took 8 A-1 sidewall cores 7,360'-8,570', all no show.

Completed: D&A 3/1946

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BYRD DOME
FIGURE 17

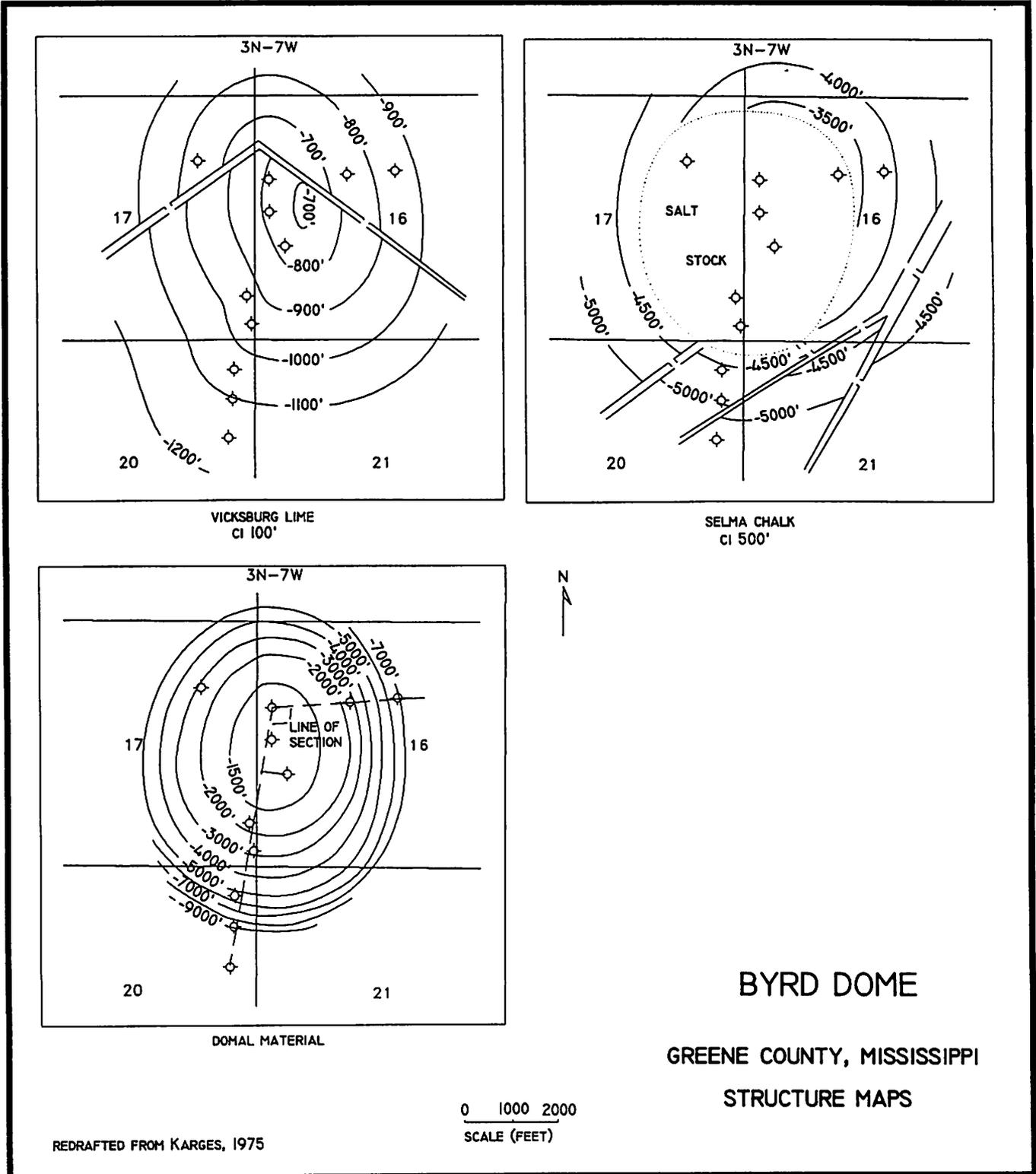


FIGURE 18

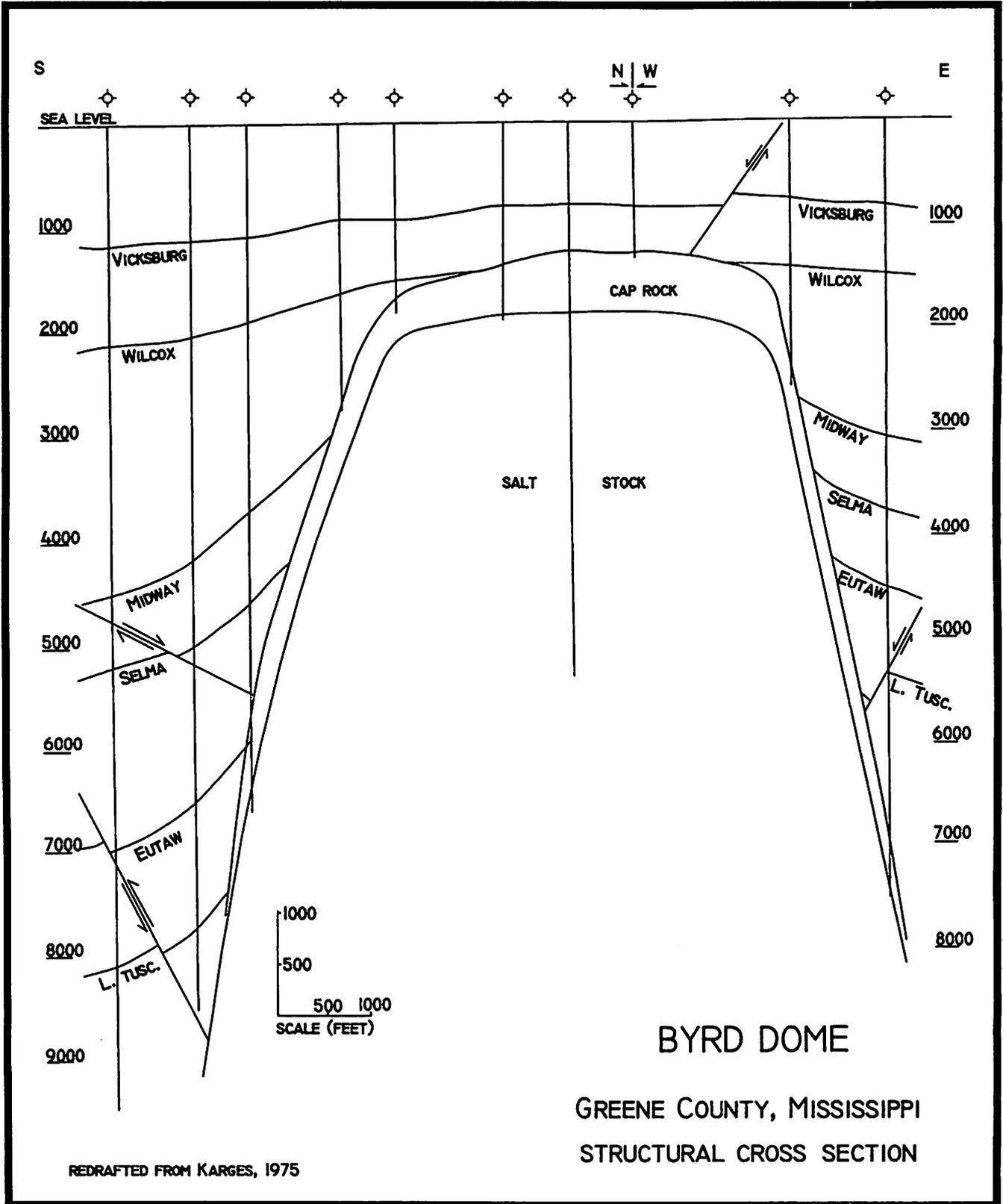
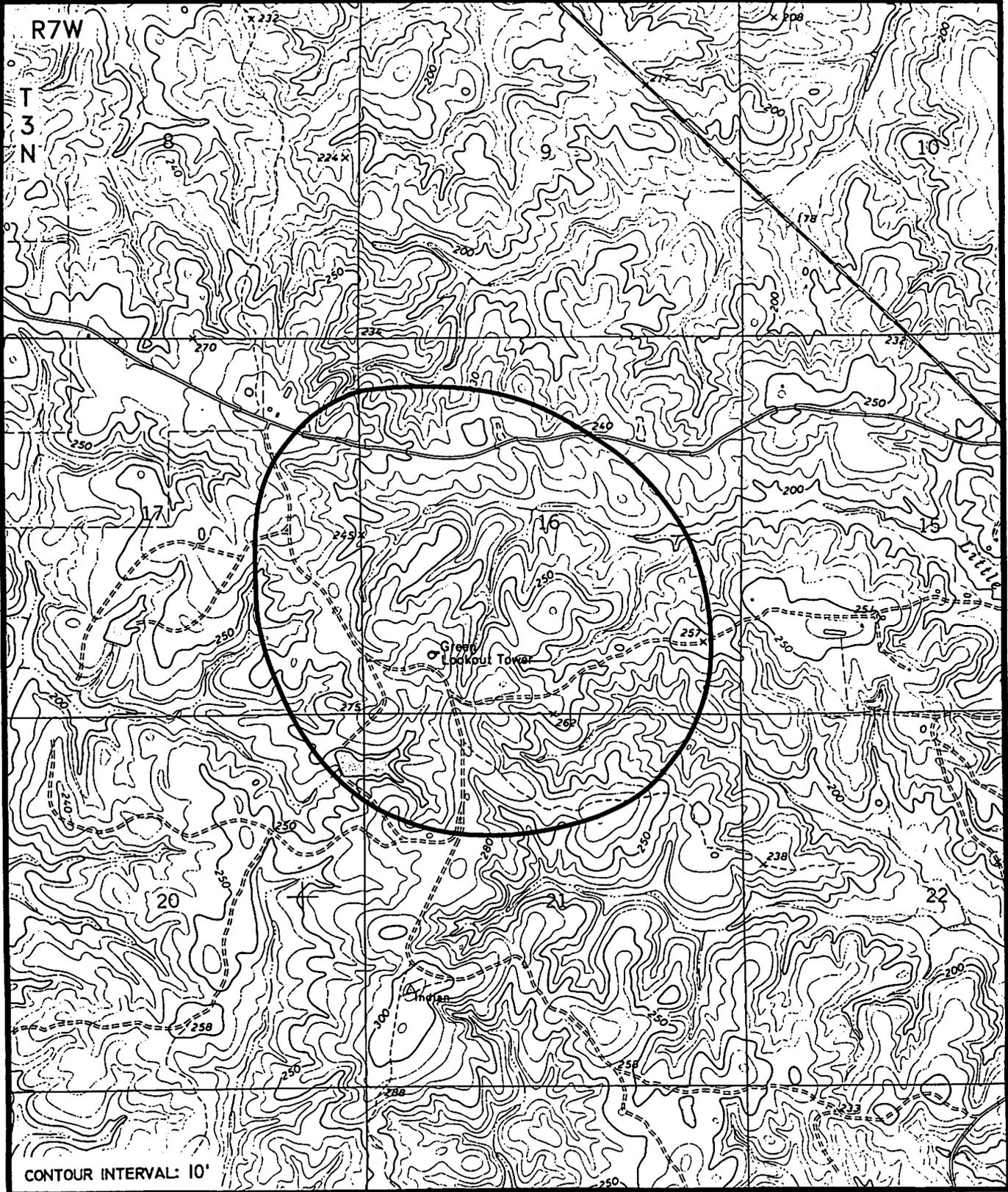


FIGURE 19



BYRD DOME

FIGURE 20

CARMICHAEL SALT DOME

GENERAL DATA

Location: Sections 27,28-T3N-R3W, Hinds County, Mississippi

USGS topographic map(s): Dabney Crossroads, Utica East

Geophysical data: Moderate gravity minimum

Estimated size and shape: Assumed nearly circular, one mile in diameter

Estimated base fresh water (10,000 ppm): -3,200'

Economic use: None to date

Shallowest known cap rock: 2,685'

Shallowest known salt: 2,966'

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Meridian Oil Inc. No. 1 Willie Johnson)

Nearest oil or gas production: Utica Field, 6 miles northwest, produces from the Lower Cretaceous Rodessa, Sligo, and Hosston formations.

DRILLING HISTORY

Discovery well: The Southeastern Drilling Company No. 1 L. K. Ervin (Louis Ervin) (Lewis-Ervin)

API well number: 23-049-00260

Location: 200' S and 200' E of NW/corner of SE/4 of NW/4 of Section 27-T3N-R3W

Elevation: 326' GL, 337' DF

Total depth: 3,260'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Winona	2,220'
Wilcox	2,475'
cap rock	2,685'
anhydrite	2,945'
salt	2,966'

Geophysical logs: Schlumberger electrical log 632'-3,254'

Comments: Cored 2,829'-34', no recovery; 2,834'-39', recovered 8" limestone with abundance of calcite and some pyrite; 2,839'-49' (2 cores), no recovery; 2,939'-44', recovered 6" limestone with strong sulphur odor; 2,944'-49', recovered 2' limestone with streaks of anhydrite and strong sulphur odor; 3,255'-60', recovered 5' salt.

Took six sidewall cores 2,010'-2,619', all no show.

"In Hinds County, Mississippi, Southeastern Drilling Company and P. G. Lake, Inc., have consummated a farmout deal and are preparing to drill a 9,800 foot test in SE/NW Section 27-T3N-R3W. This test is being sponsored by: The California Company, \$18,000; The Texas Company \$1.00

per foot up to a maximum of \$9,000; Tidewater \$.80 per foot up to \$8,000; Sun Oil Company \$3,750; Stanolind \$2,500; Lion Oil Company \$2,000; J. P. Evans \$1,000; Skelly Oil Company \$1,000; and Magnolia Petroleum Company a total of 420 acres, including 100 acres of Louis K. Ervin lease on which the test is to be drilled. The Texas Company and Tidewater's odd footage contribution clause is based upon possibility of encountering salt above contract depth." (C. L. Morgan, 1949)

Completed: D&A 4/1949

Additional drilling:

Well: Meridian Oil Inc. No. 1 Willie Johnson 22-13

API well number: 23-049-20159

Location: 800' FSL and 800' FWL of Section 22-T3N-R3W

Elevation: 256' GL, 281' DF, 282' KB

Total depth: 14,764'

Reported formation tops: (scout ticket)

Midway	6,018'
Selma	6,825'
Eutaw	7,522'
Mooringsport	12,313'
Ferry Lake	12,837'
Rodessa	13,155'
Pine Island	13,860'
Sligo	14,130'

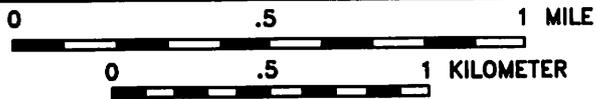
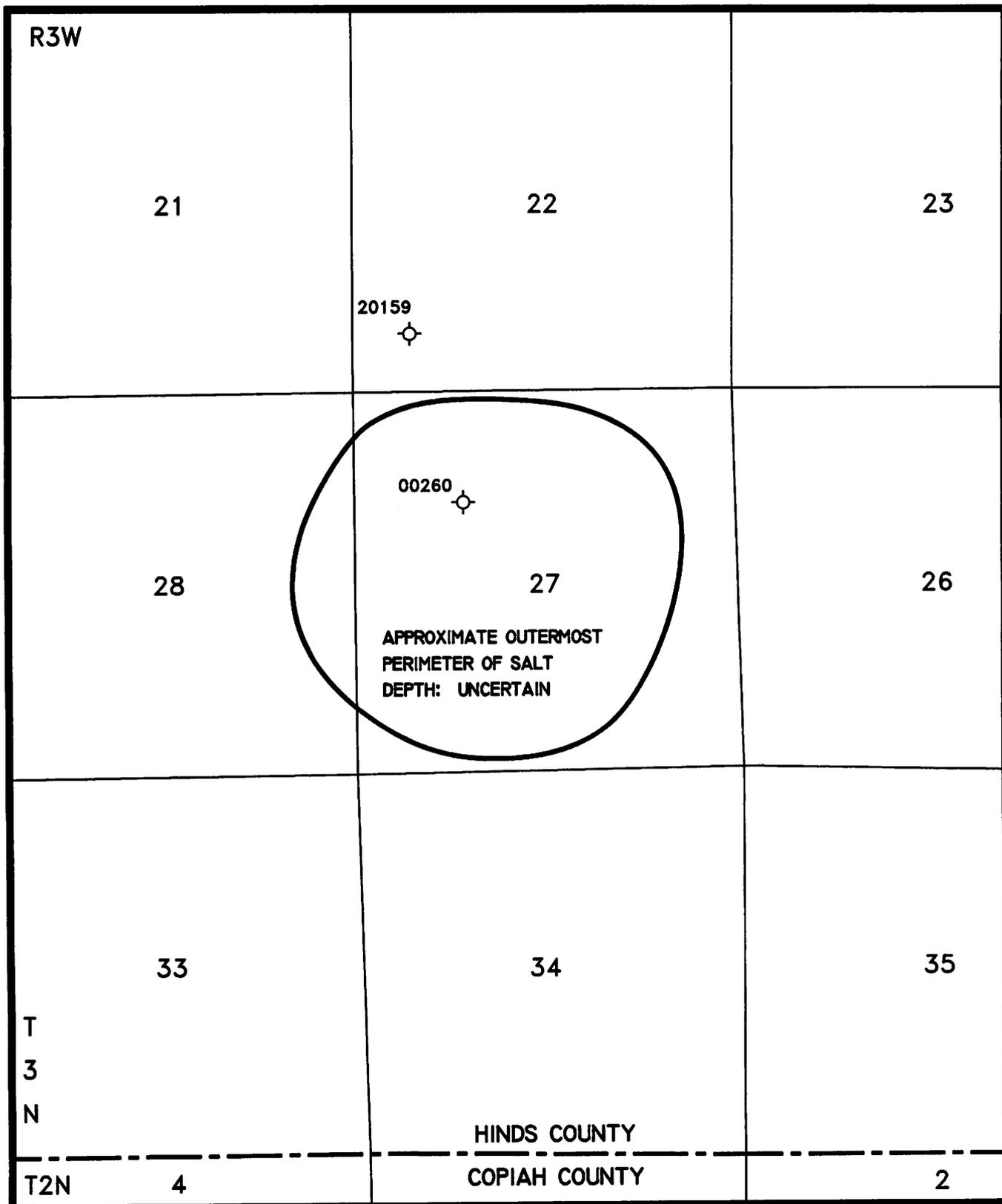
Geophysical logs: Schlumberger Dual Induction-SFL 2,500'-14,756', Microlog 13,900'-14,734', Compensated Neutron-Litho-Density 7,600'-14,760'

Comments:

Completed: D&A 2/1988

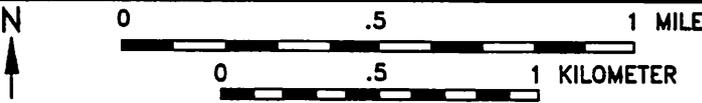
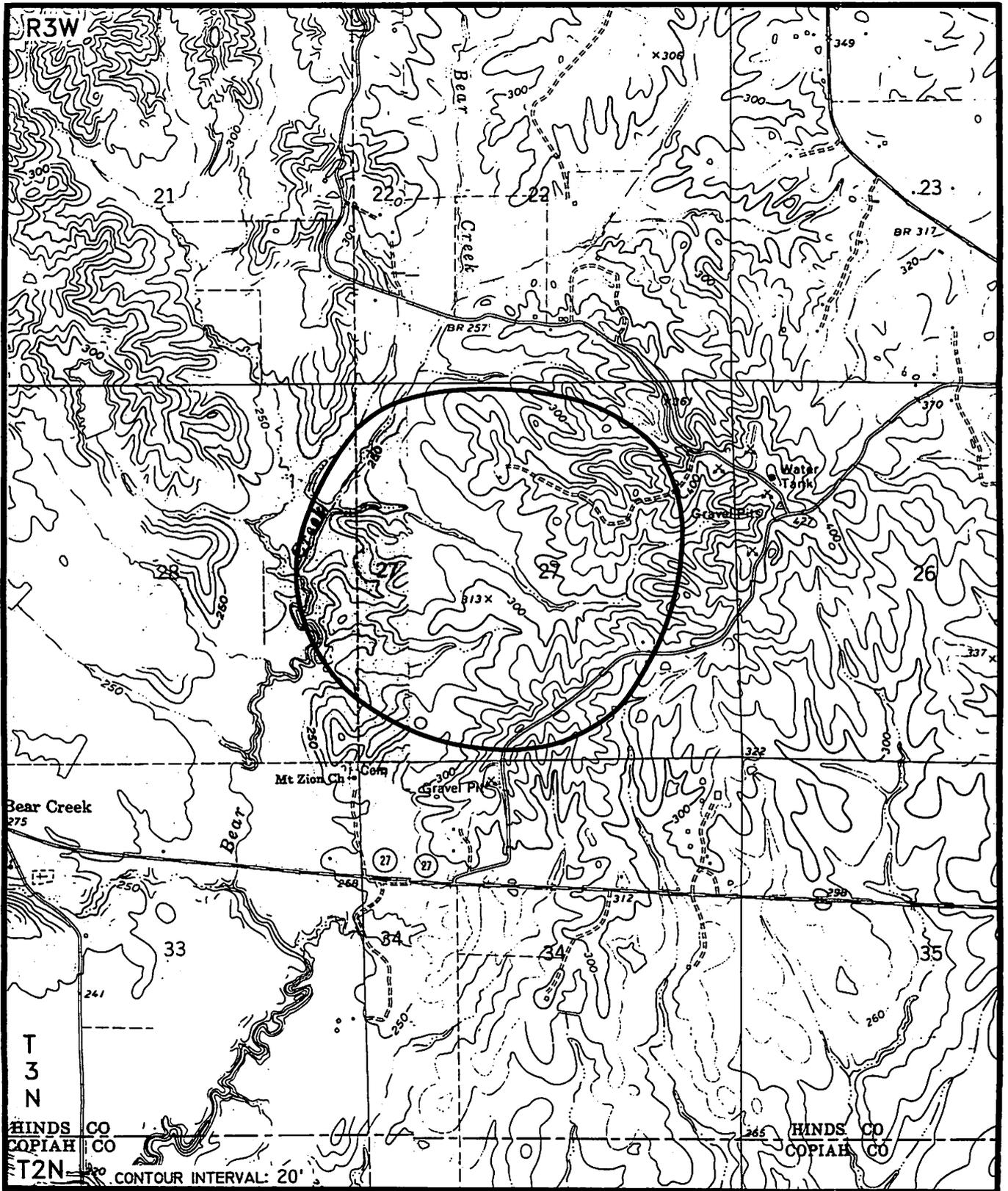
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CARMICHAEL DOME

FIGURE 21



CARMICHAEL DOME
FIGURE 22

CARSON SALT DOME

GENERAL DATA

Location: Sections 19,30-T7N-R17W, and Section 24-T7N-R18W, Jefferson Davis County, Mississippi

USGS topographic map(s): Prentiss East, Lake Mike Connor

Geophysical data: Moderate gravity minimum. Mellen reported early seismic work by Humble.

Estimated size and shape: Approximately circular, one mile in diameter

Estimated base fresh water (10,000 ppm): -3,100'

Economic use: None to date

Shallowest known cap rock: 2,318' (Gulf Refining Company No. 1 W. J. Price)

Shallowest known salt: 3,083' (Humble Oil & Refining Company No. 1 Andrew Barnes)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Amoco Production Company No. 1 Amoco-Sabine Unit 25-6)

Nearest oil or gas production: Carson Field, on the west flank of this dome, produces from the Lower Cretaceous Hosston Formation.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 W. J. Price

API well number: 23-065-00041

Location: 608' S and 608' E of NW/corner of Section 19-T7N-R17W

Elevation: 433' GL

Total depth: 2,538'

Reported formation tops: (scout ticket)

Vicksburg	850'
Yazoo	990'
Moodys Branch	1,162'
Yegua	1,182'
Wautubbee	1,288'
Camerina	1,344'
Kosciusko	1,436'
Zilpha	1,863'+/-
Tallahatta	1,965'
Wilcox	2,171'
cap rock	2,318'

Geophysical logs: Schlumberger electrical log 208'-2,329'

Comments:

Completed: D&A 9/1943

Additional drilling:

Well: Amerada Hess Corporation No. 1 John Bass Heirs

API well number: 23-065-20281

Location: 1,500' FNL and 2,400' FWL of Section 18-T7N-R17W (proposed bottom hole location 3,150' FNL and

1,600' FWL of Section 18-T7N-R17W)

Elevation: 420' ES (as reported on scout ticket)

Total depth: permitted to 16,500'

Reported formation tops:

Geophysical logs:

Comments: moving in rig 12/05/1994

Completed:

Well: Amoco Production Company No. 1 J. Williams Unit 13-6

API well number: 23-065-20181

Location: 1,500' FNL and 1500' FWL of Section 13-T7N-R18W

Elevation: 475' GL, 506' DF, 507' KB

Total depth: 16,000'

Reported formation tops: (scout ticket)

Ferry Lake 14,500'

Sligo 14,800'

Hosston 15,200'

Geophysical logs: Schlumberger Dual Induction-SFL 3,000'-15,963', Compensated Neutron-Formation Density 13,962'-15,962', Continuous Dipmeter 14,332'-15,969', Computer Processed Log (Cyberlook) 13,960'-15,962', Microlog 13,962'-15,962'

Comments: Attempted 65 sidewall cores, recovered 41, 14,922'-15,938', all nonproductive except 14,998', 15,100', 15,108', 15,152', and 15,886' which analyzed gas productive.

Completed: D&A 7/1981

Well: Humble Oil & Refining Company No. 1 J. H. Williams & Sons

API well number: 23-065-00106

Location: 330' N and 330' W of center of Section 13-T7N-R18W

Elevation: 445' DF

Total depth: 10,427'

Reported formation tops:

chalk 7,055'

Geophysical logs: Schlumberger Composite Log 50'-10,427'

Comments: Cored 3,061'-283', recovered sand and shale; 8,400'-82', recovered shale; 8,547'-621', recovered shale; 8,621'-47', recovered sand with no show; 8,647'-9,070', recovered sand and shale with no show; 9,070'-244', recovered sand and shale with no show; 9,244'-71', recovered shale; 9,674'-824', recovered shale; 9,824'-977', recovered shale and sand with no show; 9,977'-10,045', recovered shale; 10,045'-130', recovered shale; 10,132'-79', recovered sand with no show; 10,179'-225', recovered shale and gravel with no show; 10,225'-51', recovered sand and shale with no show.

Drillstem tested 3,142'-63', recovered 1,000' drilling mud with no show; 8,628'-47', recovered salt water (took test for water sample); 9,954'-77', recovered 5,400' water cushion, 630' drilling mud, 1,800' salt water; 10,139'-79', recovered 5,400' water cushion, 450' drilling mud, 4,179' salt water.

Completed: 10/1946

Well: Amerada Hess Corporation No. 1 Lula Turner 24-10
API well number: 23-065-20278

Location: 1,500' FSL and 2,400' FEL of Section 24-T7N-R18W

Elevation: 426' GL

Total depth: 15,526' (second sidetrack hole)

Reported formation tops:

Geophysical logs:

Comments: Completed for 3,156 MCFGPD, 499 BCPD, 45.9° gravity, 10/64" choke, 3,352# FTP, 1,550# CP, GCR 6,322:1, from Hosston perforations 15,195'-204', 15,282'-312', and 15,317'-25'.

Completed: 10/1994

Well: Humble Oil & Refining Company No. 1 A. B. Barnes

API well number: 23-065-00055

Location: 2,189' N and 660' W of SE/corner of Section 24-T7N-R18W

Elevation: 461' DF

Total depth: 7,369'

Reported formation tops: (scout ticket)

cap rock 2,680'

salt 3,083'

Geophysical logs: Schlumberger Composite Log 60'-6,006'

Comments: Cored 3,329'-36', recovered 6" salt; 3,336'-41', recovered 3.5" salt; 6,008'-10', recovered 1' salt.

Completed: D&A 1/1946

Well: Humble Oil & Refining Company No. 1 N. D. Dale

API well number: 23-065-00068

Location: 330' FSL and 420' FEL of SE/4 of NE/4 of Section 24-T7N-R18W

Elevation: 471' DF

Total depth: 7,050'

Reported formation tops:

Moodys Branch 1,350'

Cockfield 1,372'

Camerina 1,570'

Sparta 1,670'

Cane River 1,940'

Tallahatta 2,060'

Wilcox 2,070'

cap rock 2,525'

salt 3,086'

Geophysical logs: Schlumberger Composite Log 43'-3,094'

Comments: Lost returns at 2,685' and set cement plugs at 2,600'-720' and 2,525'-725'. Cored 2,940'-45', recovered 3' anhydrite; 2,945'-55', recovered 10' anhydrite. Ran velocity tests at total depth.

Completed: D&A 1/1945

Well: Amoco Production Company No. 1 Amoco-Sabine Unit 25-6

API well number: 23-065-20163

Location: 1,650' FNL and 1,525' FWL of Section 25-T7N-R18W

Elevation: 456' GL, 478' DF, 479' KB

Total depth: 16,204'

Reported formation tops: (scout ticket)

base chalk 8,410'

base Ferry Lake 14,495'

Hosston 15,630'

Geophysical logs: Schlumberger Dual Induction-SFL 2,960'-16,202', Microlog 13,500'-16,200', Compensated Neutron-Formation Density 13,480'-16,197', Saraband 13,480'-16,150'

Comments:

Completed: D&A 1/1981

PRODUCTION

Cumulative Production to 01/01/1995

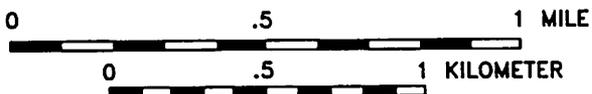
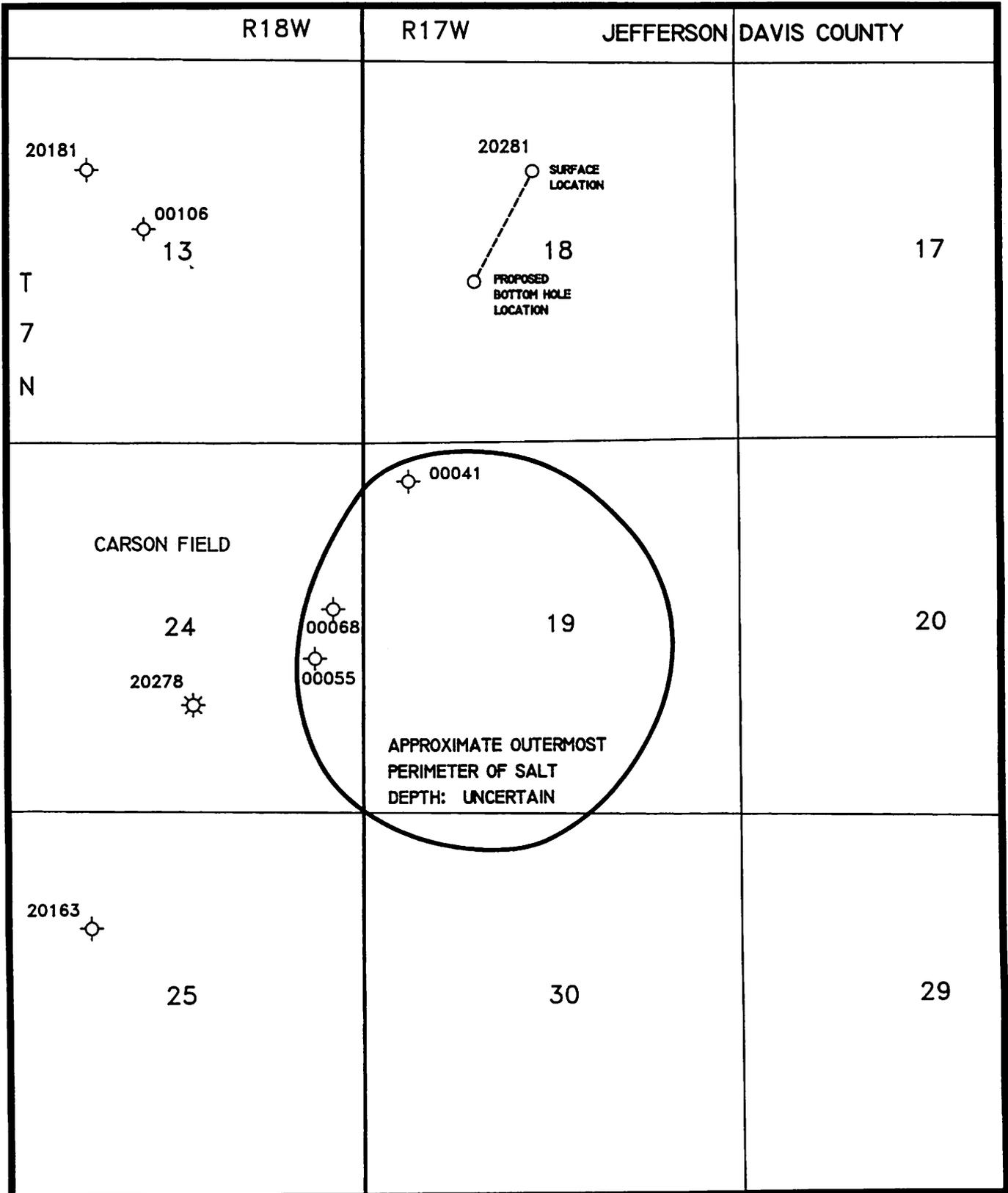
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Carson Field

Hosston 131,568 3,111,409

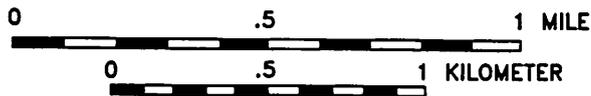
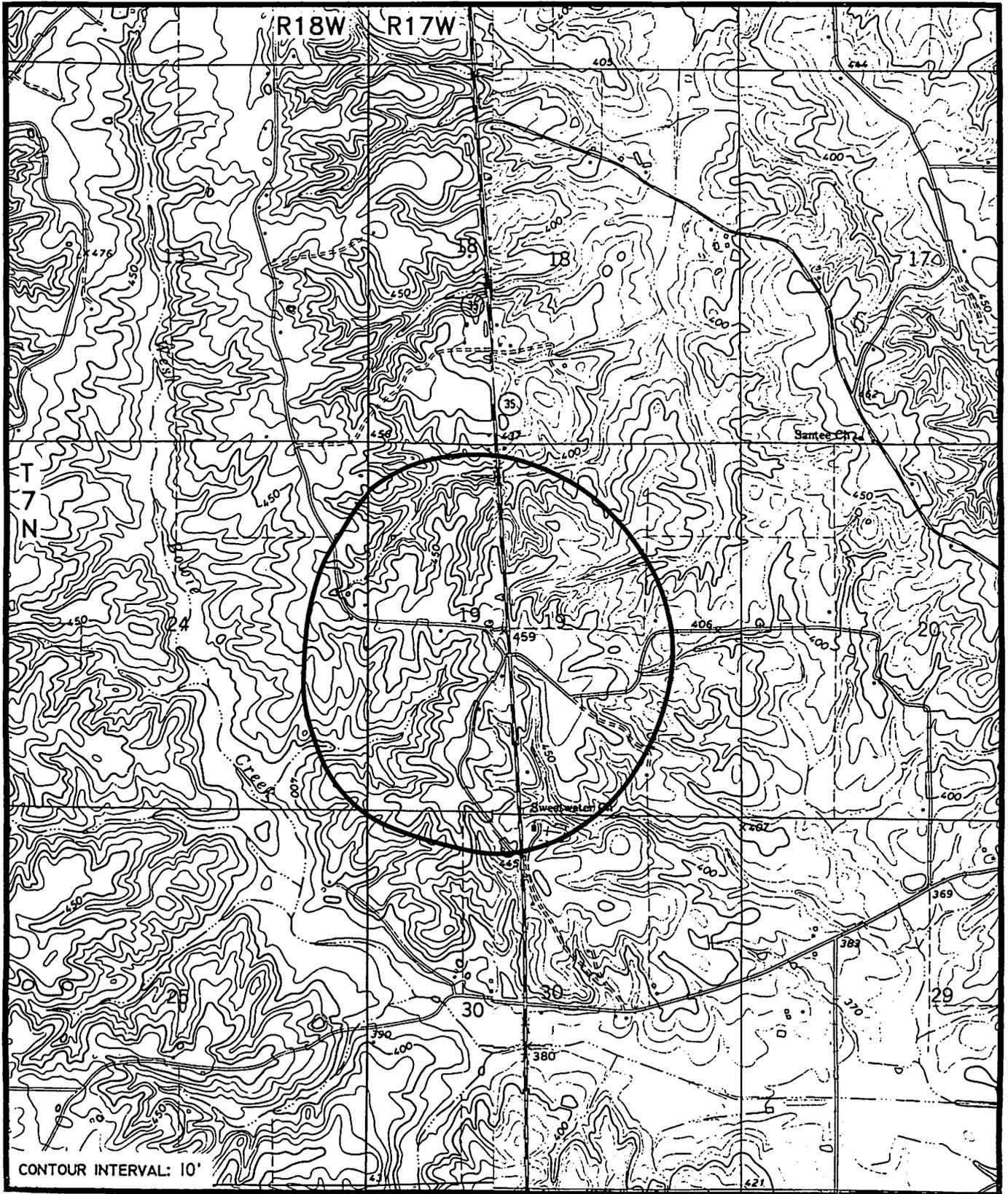
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- Mississippi State Oil & Gas Board, 1994, Production Annual Report, 327 p.



CARSON DOME

FIGURE 23



CARSON DOME

FIGURE 24

CASEYVILLE SALT DOME

GENERAL DATA

Location: Sections 14,15,22,23-T8N-R5E, Lincoln County, Mississippi

USGS topographic map(s): Caseyville

Geophysical data: Moderate gravity minimum

Estimated size and shape: Approximately circular, one mile in diameter

Estimated base fresh water (10,000 ppm): -3,100'

Economic use: None to date

Shallowest known cap rock: 2,509' (Gulf Refining Company No. 1 U. S. of America (U. S. A.))

Shallowest known salt: 3,035' (Gulf Refining Company No. 1 U. S. of America (U. S. A.))

Oldest formation penetrated within one mile of dome: Lower Cretaceous (The California Company No. 1 Mayo L. Emory)

Nearest oil or gas production: Union Church Field, 5 miles northwest, produces from the Lower Cretaceous Rodessa Formation.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 U. S. of America (U.S.A.)

API well number: 23-085-00265

Location: 684' FNL and 665' FWL of Section 23-T8N-R5E

Elevation: 382' GL, 391' DF

Total depth: 3,135'

Reported formation tops: (scout ticket)

Vicksburg	1,406'
Jackson	1,484'
Moodys Branch	1,770'
Cockfield	1,796'
Cook Mountain	2,042'
Camerina	2,085'
Sparta	2,168'
cap rock	2,509'
salt	3,035'

Geophysical logs: Schlumberger Electrical Log 613'-3,135'

Comments: Cored 3,113'-30', recovered 17' salt and anhydrite

Completed: D&A 12/1952

Additional drilling:

Well: Humble Oil & Refining Company No. 1 Board of Supervisors, Lincoln County (School Land)

API well number: 23-085-00318

Location: 675' SNL and 634' WEL of Section 16-T8N-R5E

Elevation: 450' GL?, 464' DF

Total depth: 10,818'

Reported formation tops: (scout ticket)

chalk	8,510'(driller)
-------	-----------------

Geophysical logs: Schlumberger electrical log surface-10,801'

Comments: Cored 4,000'-132, recovered sand and shale with no show; 4,132'-42', recovered sand and shale with no show; 6,740'-852', recovered no shows (as reported); 6,852'-82', recovered no shows (as reported); 10,213'-16', recovered 1' shale, no show; 10,676'-708', recovered no shows (as reported).

Took 17 A-1 sidewall cores from 9,846'-10,770', recovered sand and sandy shale with no shows.

Drillstem test 4,130'-32', recovered 3,417' salt water, 150' mud, 40' sand with no show.

Completed: D&A 12/1946

Well: Danciger Oil & Refining Company No. 1 Central Lumber Company

API well number: 23-085-00239

Location: 1,980' FWL and 660' FSL of Section 22-T8N-R5E

Elevation: 386' DF

Total depth: 10,677'

Reported formation tops: (scout ticket)

Vicksburg	1,540'
Jackson	1,710'
Moodys Branch	2,096'
Cockfield	2,108'
Cook Mountain	2,620'
Sparta	2,720'
Zilpha	3,516'
Tallahatta	3,800'
Wilcox	3,950'
Midway	7,375'
Clayton	8,318'
Selma	8,370'
Austin	8,828'
Eutaw	9,568'
Tuscaloosa	9,620'
marine Tuscaloosa	10,239'
massive sd. (Tuscaloosa)	10,500'
L. Cretaceous	10,664'

Geophysical logs: Schlumberger Composite log 125'-10,673', Dipmeter

Comments: Cored 9,575'-85', recovered 7' sand, 1' sandy shale with no show; 9,585'-95', recovered 3.5' sand with no show, 3' shale; 9,595'-605', recovered 6' shale; 9,605'-15', recovered 6' shale, 1" siderite; 9,615'-24', recovered 2' sand, 6" shaly sand, 1.5' shale with ankerite; 9,624'-34', recovered 2' (?) with ankerite; 9,634'-44', recovered 2' 4" shale; 9,644'-54', recovered 5' sand, 3' shale with no show; 9,654'-64', recovered 6" sand, 5' 6" shale; 9,664'-74', recovered 1.5' sand and shale; 9,674'-84', recovered 6' red and green shale; 9,684'-94', recovered 6' shale; 9,694'-96', no recovery; 9,696'-706', recovered

8' shale; 9,706'-15', recovered 5' shale, 1' broken sand and shale; 9,715'-25', recovered 3' sand, 1' 2" shale, 1' sand with 20° dip; 9,725'-35', recovered 1.5' shale, 4.5' sand, 2' sand with 20° dip; 9,735'-45', recovered 1.5' shale, 4' fine sand, 1' red shale; 9,745'-55', recovered 6.5' red and gray shale; 9,755'-63', no recovery; 9,820'-30', recovered 2" sand with no show, 2" sand with weak gas odor, no stain (bubbled 15 minutes on fresh breaks when submerged in water), 1' 4" sand with no show and 30° dip; 9,830'-40', recovered 5' shale; 9,840'-42', no recovery; (depth correction: 9,842'=9,841'); 9,841'-51', recovered 1' shale, 6" sand, 2' micaceous, ashy sand with no show; 9,851'-61', recovered 1' sand, 5' shale; 9,861'-71', recovered 9.5' mottled waxy red and green shale; 9,871'-74', recovered 3' shale; 9,874'-84', recovered 5' shale, 1' sand with no show; 9,884'-91', recovered 3' gray shale with sand partings and 20° dip, 2' waxy shale, 1.5' waxy shale with abundant ankerite, 6" silty shale; 10,455'-65', recovered 8' shale; 10,465'-72', no recovery; 10,503.5'-13', recovered 4' shale, 4' ashy, salty sand; 10,513'-23', recovered 3' ashy, salty sand; 10,523'-33', recovered salty sand; 10,581'-91', recovered 10' ashy sandstone; 10,591'-601', recovered 1.5' sandstone with no show.

Took 18 sidewall cores 3,960'-5,414', recovered sand with no shows; 18 sidewall cores 5,475'-7,227', recovered no shows; 16 sidewall cores 9,776'-10,209', all no show.

Completed: D&A 3/1946

Well: The California Company No. 1 Mayo L. Emory

API well number: 23-085-00128

Location: 1,996' FSL and 821' FEL of Section 23-T8N-R5E

Elevation: 487' GL, 503' DF, 504' KB

Total depth: 10,908'

Reported formation tops: (scout ticket)

Cockfield	2,247'
Cook Mountain	2,657'
Camerina	2,768'
Sparta	2,904'
Zilpha	3,650'
Wilcox (sd.)	4,123'
base big shale	5,531'
chalk	8,497'-9,551'
marine Tuscaloosa	10,406'
Lower Tuscaloosa	10,593'
massive sand	10,727'
Lower Cretaceous	10,853'

Geophysical logs: Schlumberger Electrical Log 1,830'-10,908'

Comments: Cored 9,738'-43', recovered 3.5' shale, 1' sand; 9,743'-51', recovered 1' sand with no show, 6.5' shale; 9,751'-61', recovered 2' 9" sandstone, 3' 9" shale; 9,761'-70', recovered 6" shale; 9,770'-75', recovered 9" sandstone with no show, 3' shale; (depth correction 9,775'=9,778'); 9,778'-88', recovered 1' siltstone, 1' sand with no show, 5' shale; 9,788'-98', recovered 5.5' shale, 4" siltstone with no show; 9,798'-

803', recovered 2' siltstone, 6" shale, 2' sand with no show; 9,803'-08', recovered 5' siltstone and shale; 9,804'-14', (as reported) recovered 6' sand with no show; 9,814'-19', recovered 2' sand with no show; 9,819'-24', recovered 2' shale, 1' sand with no show, 1' siltstone; 9,824'-29', recovered 1' shale, 2' siltstone; 9,829'-39', recovered 8.5' siltstone and shale; 9,839'-49', recovered 7.5' siltstone and shale; 9,849'-77' (3 cores), recovered 18.5' siltstone and shale; 9,877'-82', recovered 6" sand with no show; 9,882'-87', recovered 2.5' sand with no show, 2' shale; 9,887'-92', recovered 3' shale, 2' sand with no show; 10,647'-52', recovered 3.5' shale; 10,652'-82', recovered 9.5' shale; 10,682'-87', recovered 1' 8" shale, 2.5' sand with no show; 10,687'-714' (3 cores), recovered 23.5' shale; 10,714'-18', recovered 4' mottled shale; 10,718'-24', recovered 1.5' siltstone, 1.5' sand, 2' shale; 10,724'-34', recovered 1' sand with trace oil; 10,734'-39', recovered 1' 9" sand with slight trace oil; 10,739'-69', recovered 5.5' sand with no show; 10,769'-73', recovered 6" shale, 6" sand with no show, 1' sand with gas odor, no stain, no fluorescence, slight trace oil; 10,773'-78', recovered 2' sand with no show.

Took 40 sidewall cores 4,286'-7,453', recovered 37, all no show; 30 sidewall cores 9,879'-10,786', all no show except 10,211' and 10,652' which recovered sand with asphaltic shows.

Cuttings 10,644'-47' recovered fine grain sand with good to poor fluorescence, fair cut, no stain.

Completed: D&A 11/1951

Well: Placid Oil Company No. 1 Placid-Paramount Petroleum-Moreton et al. 23-7

API well number: 23-085-20206

Location: 2,109' S and 2,359' W of NE/corner of Section 23-T8N-R5E

Elevation: 464' GL, 475' DF, 476' KB

Total depth: 10,321'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

salt 10,155'

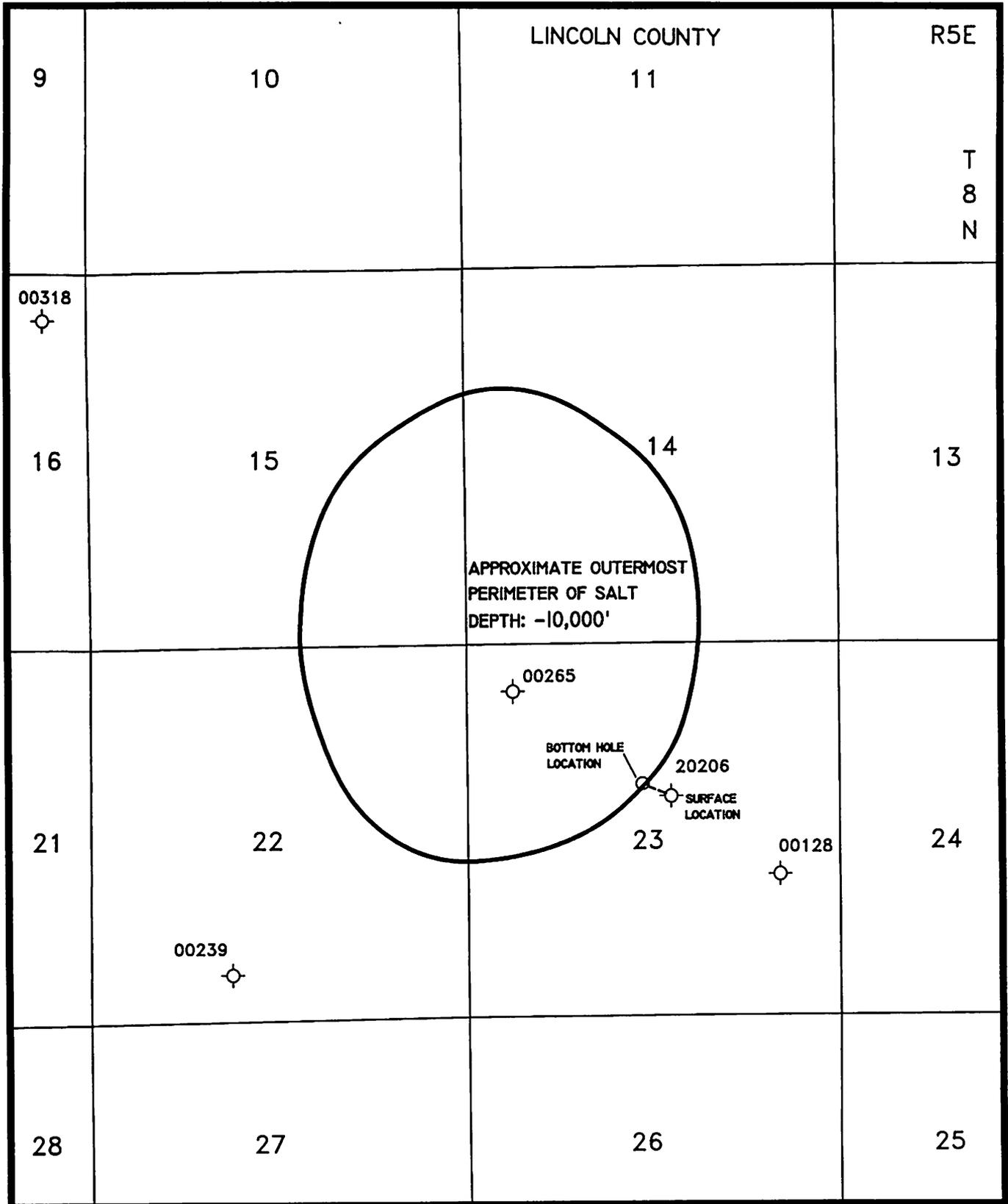
Geophysical logs: Sidetrack hole-Schlumberger Dual Induction Long Spaced Sonic 2,312'-10,310'

Comments: Drilled to 10,155'. Unable to recover fish. Plugged back to 6,900' and sidetracked. Drilled to 10,321' in sidetrack hole. Sidetrack hole, at 10,316' measured depth = 10,286' true vertical depth, hole was 197' N and 406' W of surface location.

Completed: D&A 1/1992

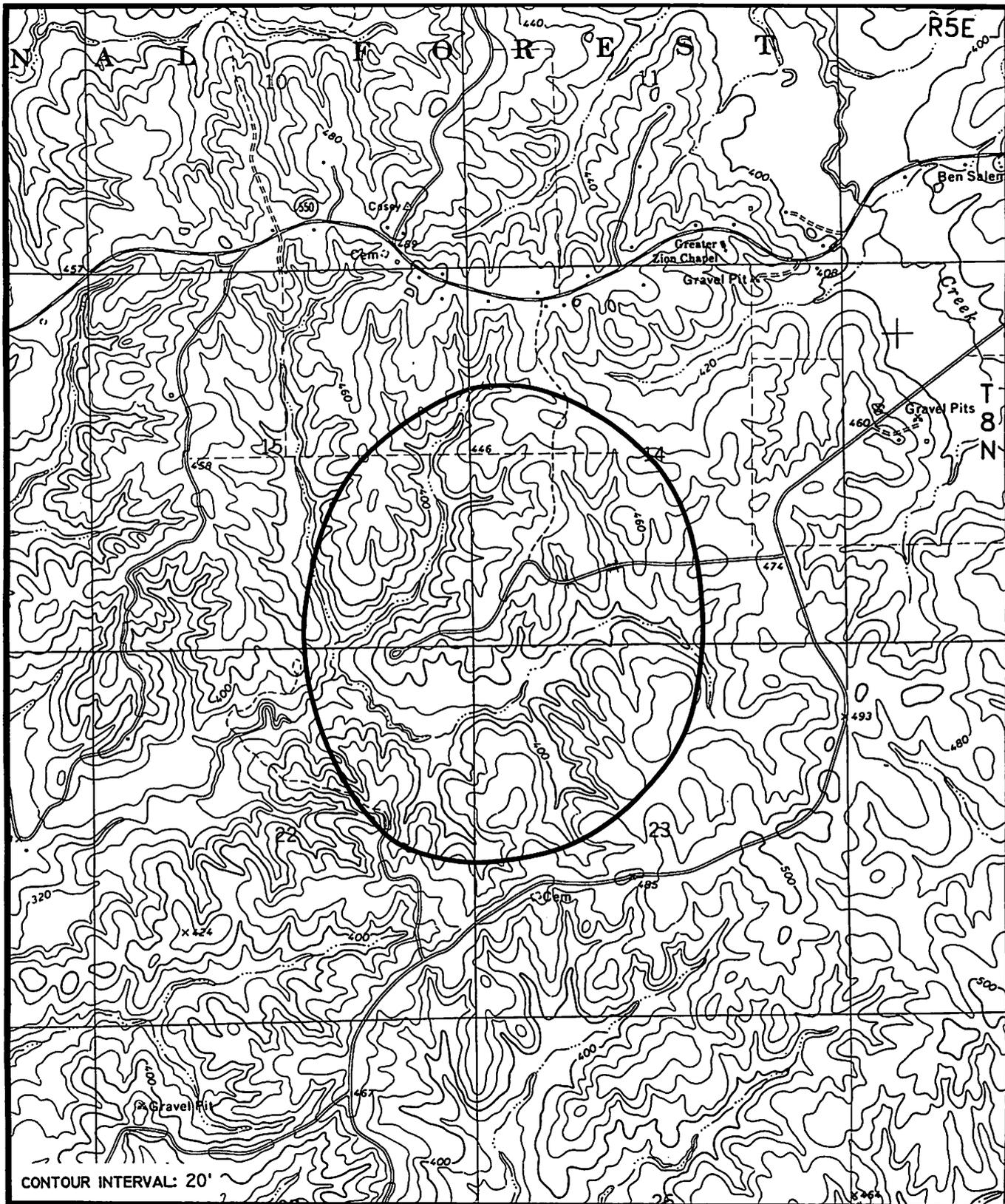
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CASEYVILLE DOME

FIGURE 25



CONTOUR INTERVAL: 20'



CASEYVILLE DOME

FIGURE 26

CENTERVILLE SALT DOME

GENERAL DATA

Location: Sections 7,18,19-T8N-R13W, and Sections 13,24-T8N-R14W, Jones County, Mississippi

USGS topographic map(s): Hebron

Geophysical data: Minor gravity minimum with a caprock gravity maximum

Estimated size and shape: Oval, 1.5 miles in diameter north-south, 1.1 miles in diameter east-west

Estimated base fresh water (10,000 ppm): -2,200'

Economic use: Free State oil field on southeast flank

Shallowest known cap rock: 2,032' (Walter Sistrunk No. 1 H. C. Powell)

Shallowest known salt: Not reached

Oldest formation penetrated within one mile of dome: Jurassic Cotton Valley Formation (Oryx Energy No. 1 Charles Grayson)

Nearest oil or gas production: Free State Field, southeast flank of this dome

DRILLING HISTORY

Discovery well: Walter Sistrunk No. 1 H. C. Powell

API well number: 23-067-00333

Location: 360' E and 380' S of NW/corner of NE/4 of SW/4 of Section 18-T8N-R13W

Elevation: 230' DF

Total depth: 2,068'

Reported formation tops: (scout ticket)

Moodys Branch 965'

Cockfield 990'

Cook Mountain 1,163'

Camerina 1,265'

Zilpha 1,352'

Tallahatta 1,580'

Wilcox 1,780'

caprock 2,032'

Geophysical logs: Schlumberger electrical log: 290'-2,042'

Comments: Took sidewall cores at 1,332', 1,427', and 1,827', all no show.

Completed: D&A 5/1949

Additional drilling:

Well: Oryx Energy Company No. 1 Frankie Smith

API well number: 23-067-20317

Location: 2,501' FNL and 2,300' FEL of Section 19-T8N-R13W

Elevation: 213' GL, 243' DF, 244' KB

Total depth: 16,984'

Reported formation tops: (scout ticket)

Eutaw 7,349'

Tuscaloosa 7,789'

Paluxy 11,269'

Mooringsport 12,549'

Ferry Lake 12,966'

Sligo 13,749'

Hosston 14,139'

Geophysical logs: Schlumberger Dual Induction-SFL 6,962'-16,970', Microlog 6,962'-16,280', LDT/CNL

Comments: Discovery well for Free State Field. Completed for 1,231 BOPD, 4,425 MCFGPD, 32/64" choke, 42.0° gravity, 3,595:1 GOR, 1,780# TP, 600# CP from Hosston perforations 15,906'-38', 15,953'-64', 15,995'-16,030', 16,060'-86', and 16,110'-200'. Sidewall cores at undisclosed depths were taken.

Completed: 2/1990

Well: I. P. Petroleum Company, Inc. No. 1 Turner 20-5

API well number: 23-067-20353

Location: 2,400' FNL and 500' FWL of Section 20-T8N-R13W

Elevation: 210' GL, 239' DF, 240' KB

Total depth: 16,610'

Reported formation tops: (scout ticket)

Hosston 15,942'

Geophysical logs: Schlumberger Dual Induction-SFL with Sonic and Gamma Ray 6,846'-16,601'

Comments: Completed for 151 BOPD, 778 MCFGPD, 25 BWPD, 14/64" choke, 49.8° gravity, 800# TP from perforations 15,942'-86', 16,070'-86', and 16,330'-44'.

Completed: 12/1990

Well: Oryx Energy Company No. 1 Charles Grayson

API well number: 23-067-20342

Location: 100' FNL and 950' FEL of Section 13-T8N-R14W

Elevation: 225' GL (log heading), 215' GL (scout ticket), 256' KB (log heading)

Total depth: 17,936'

Reported formation tops: (scout ticket)

Hosston 15,707'

Cotton Valley 17,544'

Geophysical logs: Halliburton Dual Induction Guard 130'-17,893', Microlog 11,500'-17,717', Long Spaced Sonic Caliper 11,500'-17,893', Spectral Density Dual Spaced Neutron 6,081'-17,717'; Halliburton Drift Survey 0'-17,891'

Comments: Completed for 83 BOPD, 75 MCFGPD, 7 BWPD, 48/64" choke, 42.0° gravity, 904:1 GOR, 30# FTP from perforations 15,707'-28' and 15,764'-98'. Cotton Valley perforations 17,544'-50' and 17,629'-44' tested tite. Worked over 7/1991 to Rodessa perforations 13,470'-73', 13,482'-92', 13,520'-528', and 13,596'-604', for 63 BOPD,

15 MCFGPD, 1 BWPD pumping. Worked over 4/1992 to perforations 13,470'-604'(overall) and 15,707'-98'(overall) for 26 BOPD, 15 MCFGPD, 7 BWPD, 577:1 GOR, pumping. At measured depth 17,891', true vertical depth is 17,876'; the bottom hole location is 160' S and 519' E of the surface location.

Completed: 11/1990

PRODUCTION

Cumulative Production to 01/01/1995

	Oil (barrels)	Gas (MCF)
Free State Field		
Rodessa	30,282	25,408
Hosston	663,874	3,241,178

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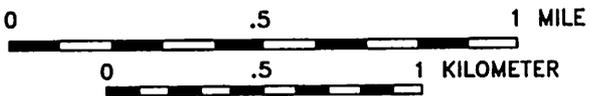
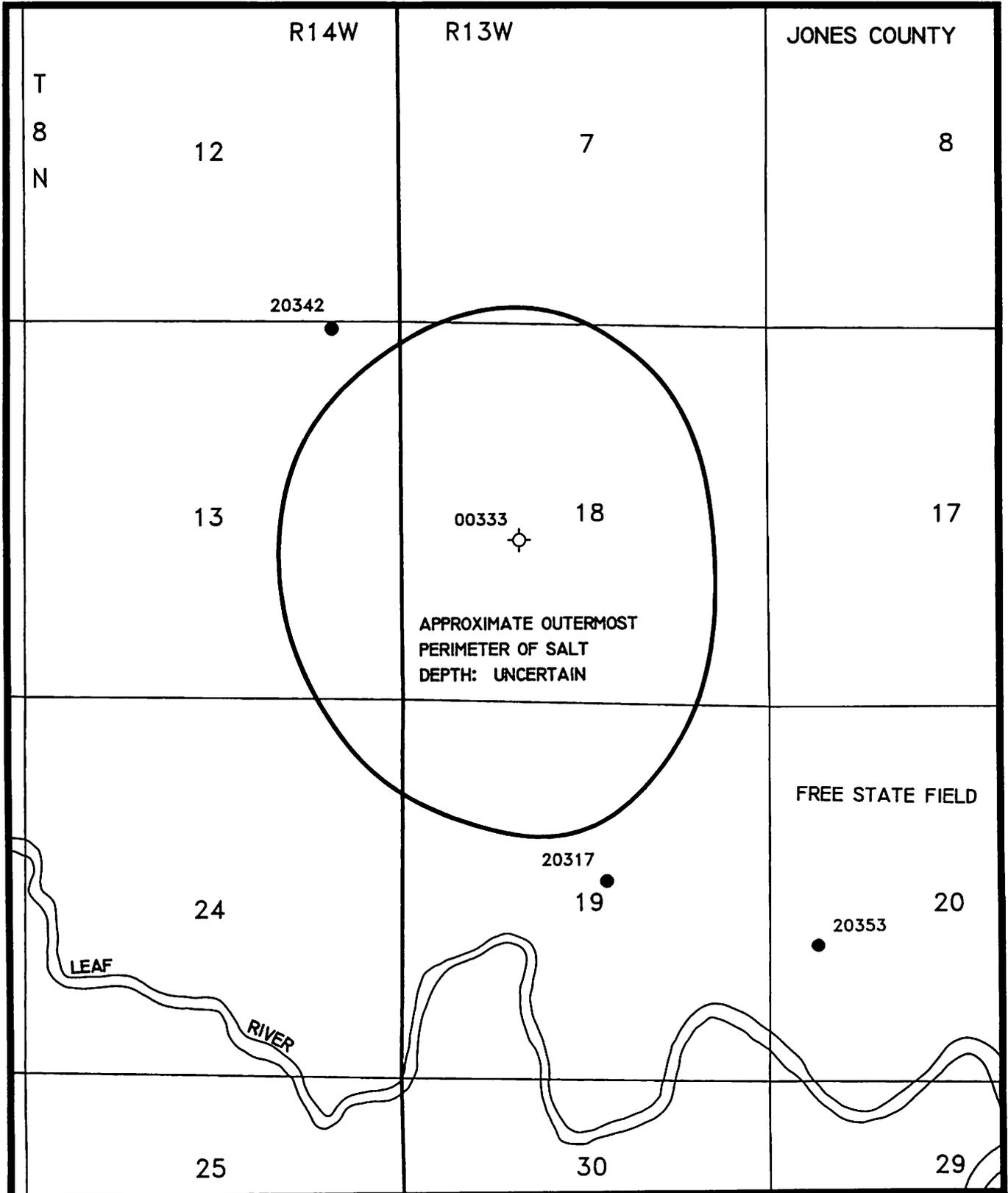
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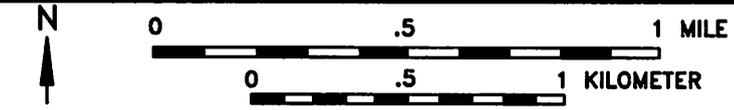
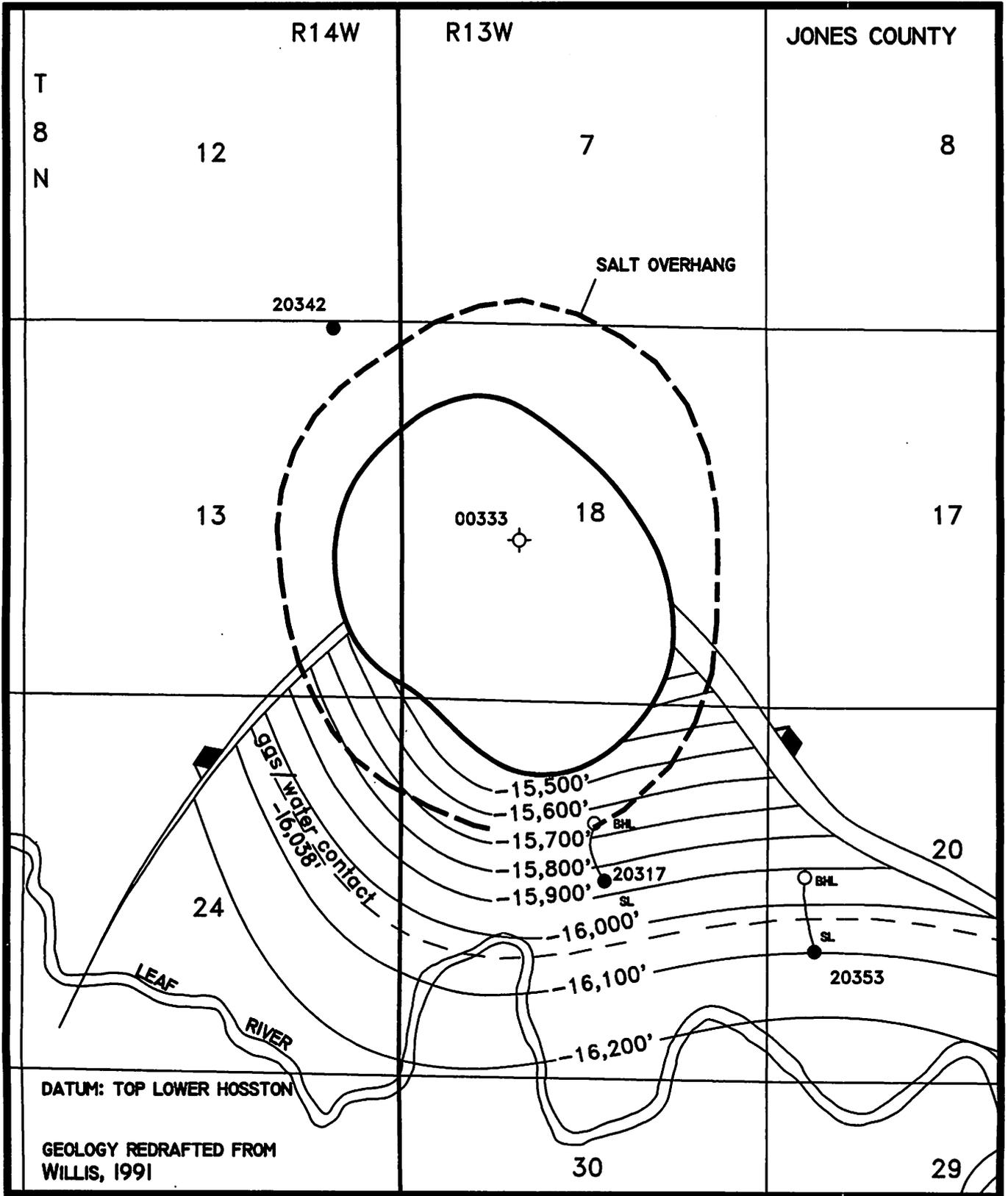
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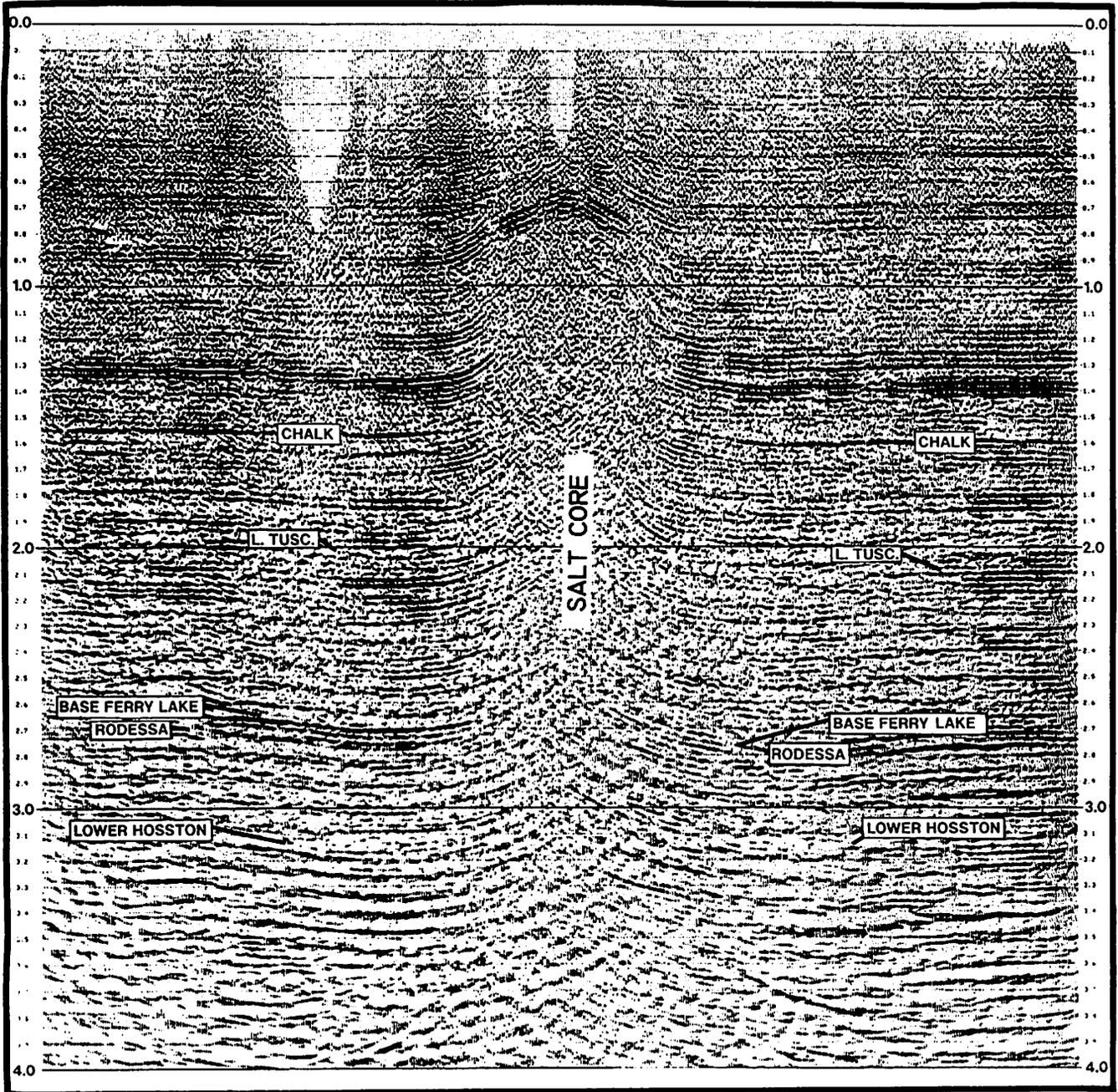
Willis, D. L., 1991, Oryx Energy Company, formerly Sun Exploration & Production Company, Free State Field structure map, in Mississippi State Oil & Gas Board, Docket No. 315-91-704, Exhibit No. B, unnumbered pages with map.



CENTERVILLE DOME
FIGURE 27



FREE STATE FIELD
FIGURE 28

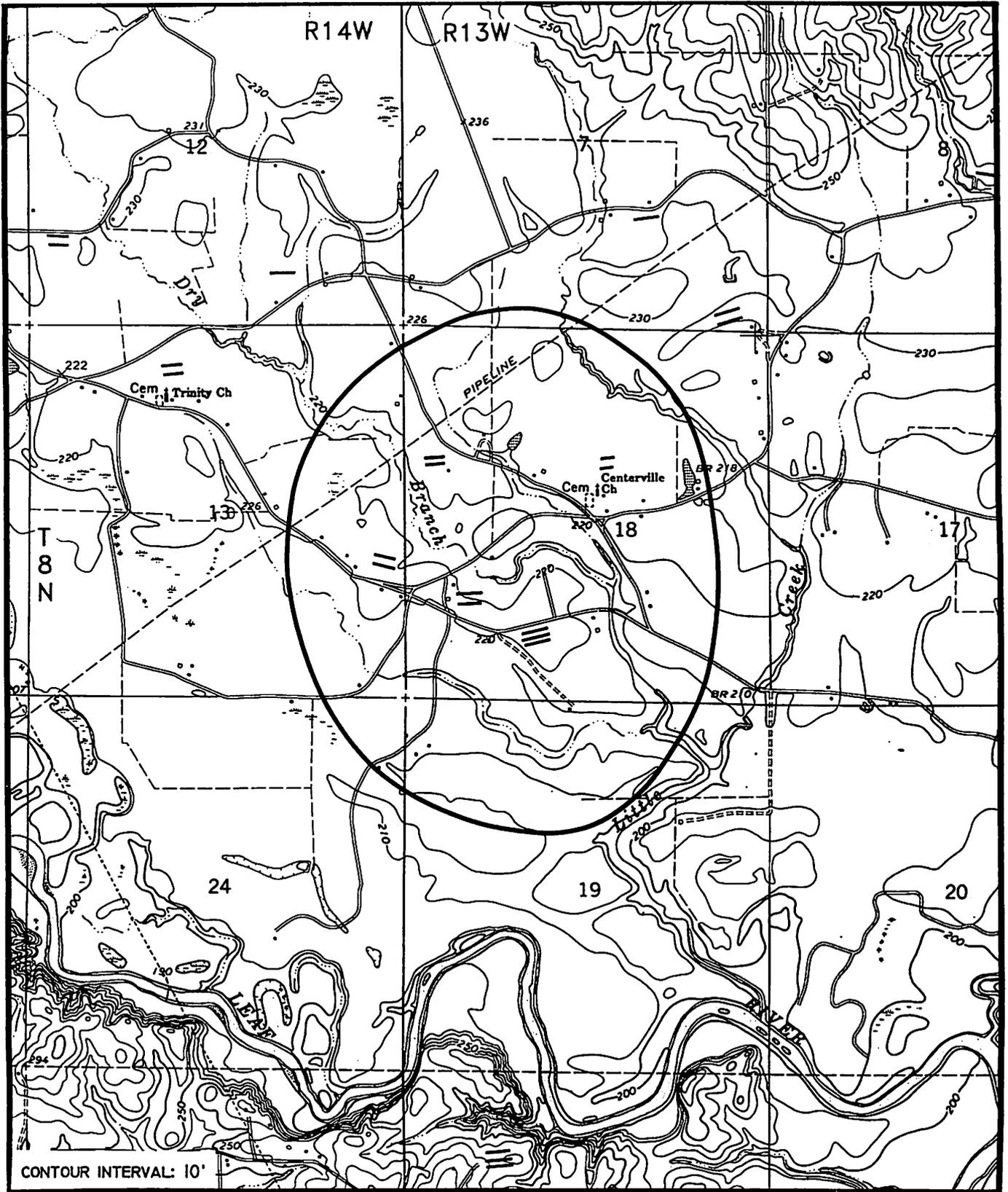


COURTESY OF ORYX ENERGY COMPANY

INTERPRETED SEISMIC SECTION

CENTERVILLE DOME

FIGURE 29



CENTERVILLE DOME

FIGURE 30

COUNTY LINE SALT DOME

GENERAL DATA

Location: Sections 1,12-T5N-R6W, and Sections 6,7-T5N-R5W, Greene County, Mississippi

USGS topographic map(s): Knobtown

Geophysical data: Minor gravity minimum with a centered, small gravity maximum

Estimated size and shape: Approximately circular, 1.5 miles in diameter

Estimated base fresh water (10,000 ppm): -1,100'

Economic use: None to date

Shallowest known cap rock: 1,239' (Sun Oil Company No. 1 David Gaines)

Shallowest known salt: 2,169' (Sun Oil Company No. 1 David Gaines)

Oldest formation penetrated within one mile of dome: Middle Eocene Cockfield Formation (Sun Oil Company No. 1 David Gaines)

Nearest oil or gas production: South State Line Field, 6 miles southeast, produces from the Jurassic Smackover and Norphlet formations.

DRILLING HISTORY

Discovery well: Sun Oil Company No. 1 David Gaines (Estate)

API well number: 23-041-00056

Location: 801' N and W of SE/corner of Section 1-T5N-R6W, also given as 200' NW of center of SE/4 of SE/4 of Section 1

Elevation: 140' DF

Total depth: 2,176'

Reported formation tops: (scout ticket)

Jackson	705'
Moodys Branch	825'
Cockfield	840'
broken cap rock	1,239'
anhydrite	1,305'
salt	2,169'

Geophysical logs: Schlumberger electrical log 588'-1,595'

Comments: Cored 2,171'-76', recovered 3.5' salt. Took 17 sidewall cores from 833'-1,280', all no show except for oil shows at 898', 1,085', 1,102', 1,195', 1,241', 1,242', 1,248', 1,260', 1,267', and 1,272'. Drillstem test 1,073'-320', recovered 355' muddy fresh water with no show; 1,075'-320', recovered 1,040' muddy fresh water, clean on bottom.

Completed: D&A 4/1948

Additional drilling:

Well: Sun Oil Company No. 2 David Gaines

API well number: 23-041-00057

Location: 969' W and 969' N of SE/corner of Section 1-T5N-R6W, also 258' NW of Sun Oil Company No. 1 David Gaines

Elevation: 140' DF

Total depth: 1,343'

Reported formation tops: (scout ticket)

Jackson	590'
Moodys Branch	757'
Claiborne	782'
Camerina	815'
cap rock	1,302'
anhydrite	1,322'

Geophysical logs: Schlumberger electrical log 641'-1,342'

Comments: Cored 1,072'-77', recovered 4' shale with green limestone streak on bottom; 1,077'-82', recovered 8" shale; 1,082'-97' (3 cores), no recovery; 1,097'-99', recovered 1' gray micaceous, sandy shale with sulphur odor; 1,099'-101', recovered 3" sandy shale; 1,101'-02', no recovery; 1,102'-04', recovered 3" black, fossiliferous limestone; 1,110'-12', recovered 2' interbedded sand and shale with sulphur odor and spotted brown oil stain; 1,112'-17', recovered 1.5' sandy shale with oil odor and dark brown oil stain in sand lenses, gas bubbles in mud; 1,115'-20' (as reported), recovered 3.5' thinly interbedded sand and shale with sulphur odor on breaking core; 1,120'-27', no recovery; 1,127'-45' (4 cores), recovered 11' 2" sand with sulphur odor, no show, 4' shale; 1,145'-80' (5 cores), recovered 35' shale; 1,184'-89', no recovery; 1,189'-219' (8 cores), recovered 29' 2" shale with sulphur odor; 1,246'-52' (2 cores), recovered 4' shale; 1,252'-55', recovered 2" sandstone with no show; 1,255'-59' (2 cores), no recovery; 1,259'-81' (6 cores), recovered 9' 1" gray shale with sulphur odor; 1,281'-85', recovered 6" sandstone, 2' 6" sandy shale with sulphur odor and no show; 1,285'-95' (2 cores), recovered 1' 8" shale with sulphur odor; 1,295'-97', recovered 1' 11" sand bleeding black oil; 1,297'-99', recovered 3' black shale; 1,299'-301', recovered 3" black shale with pyrite; 1,301'-02', recovered 3" black shale with pyrite, 9" black limestone; 1,302'-05', recovered 10" limestone with asphaltic oil stains, slight odor, slightly bleeding oil, 8" limestone with fair oil odor and stain; 1,305'-11' (2 cores), recovered 2' 8" caprock with good oil odor and asphaltic stain; 1,311'-16', recovered 1' caprock with good oil odor and asphaltic stain; 1,316'-20' (2 cores), recovered 1' 2" caprock; 1,320'-23', recovered 1' 3" limestone; 1,323'-43' (5 cores), recovered 13.5' gray anhydrite.

Drillstem test 1,077'-107', recovered 390' muddy water with sulphur taste and oil odor in bottom; 1,108'-20', recovered 15' mud with no show; 1,215'-52', recovered 15' mud; 1,248'-59', recovered 4' mud; 1,285'-99', recovered 20' mud; 1,295'-311', recovered 1,100' black sulphur water

with no show; 1,312'-23', recovered 25' mud with no show.
Completed: D&A 6/1948

Well: United States Borax and Chemical Corporation No. 1-2 Gaines - U. S. B.

API well number: 23-041-20104

Location: 2,200' FSL and 200' FEL of Section 1-T5N-R6W

Elevation: 108' GL (topographic map), 130'? (Mississippi State Oil and Gas Board well file)

Total depth: 1,302'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

sandstone 0'-470'

siltstone and fine sand 470'-950'

sand and glauconitic sand 950'-1,000'

siltstone 1,000'-1,240'

sand, glauconite and siltstone 1,240'-1,302'

Geophysical logs: None run

Comments: Stratigraphic test

Completed: D&A 2/1991

Well: United States Borax and Chemical Corporation No. 1-3 Gaines - U. S. B.

API well number: 23-041-20106

Location: 2,200' FSL and 215' FEL of Section 1-T5N-R6W

Elevation: 130' GL

Total depth: 1,470'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

sandstone 0'-470'

siltstone and fine sand 470'-950'

sand and glauconitic sand 950'-1,000'

siltstone 1,000'-1,240'

sand, glauconite and siltstone 1,240'-1,302'

Geophysical logs: None run

Comments: Located 15' from the No. 1-2 Gaines-U. S. B. Stratigraphic test

Completed: D&A 2/1991

Well: United States Borax and Chemical Corporation No. 1 U. S. B.-Kittrell

API well number: 23-041-20103

Location: 3,000' FWL and 700' FSL of Section 1-T5N-R6W

Elevation: 120' GL

Total depth: 1,335'

Reported formation tops:

Geophysical logs: Griner 16,64 Normal, Gamma 10'-1,295'

Comments: Stratigraphic test

Completed: D&A 12/1990

Well: United States Borax and Chemical Corporation No. 1 U. S. B.-W. T. Lucas 12-1

API well number: 23-041-20102

Location: 400' FEL and 2,000' FNL of Section 12-T5N-R6W

Elevation: 135' GL

Total depth: 1,880'

Reported formation tops:

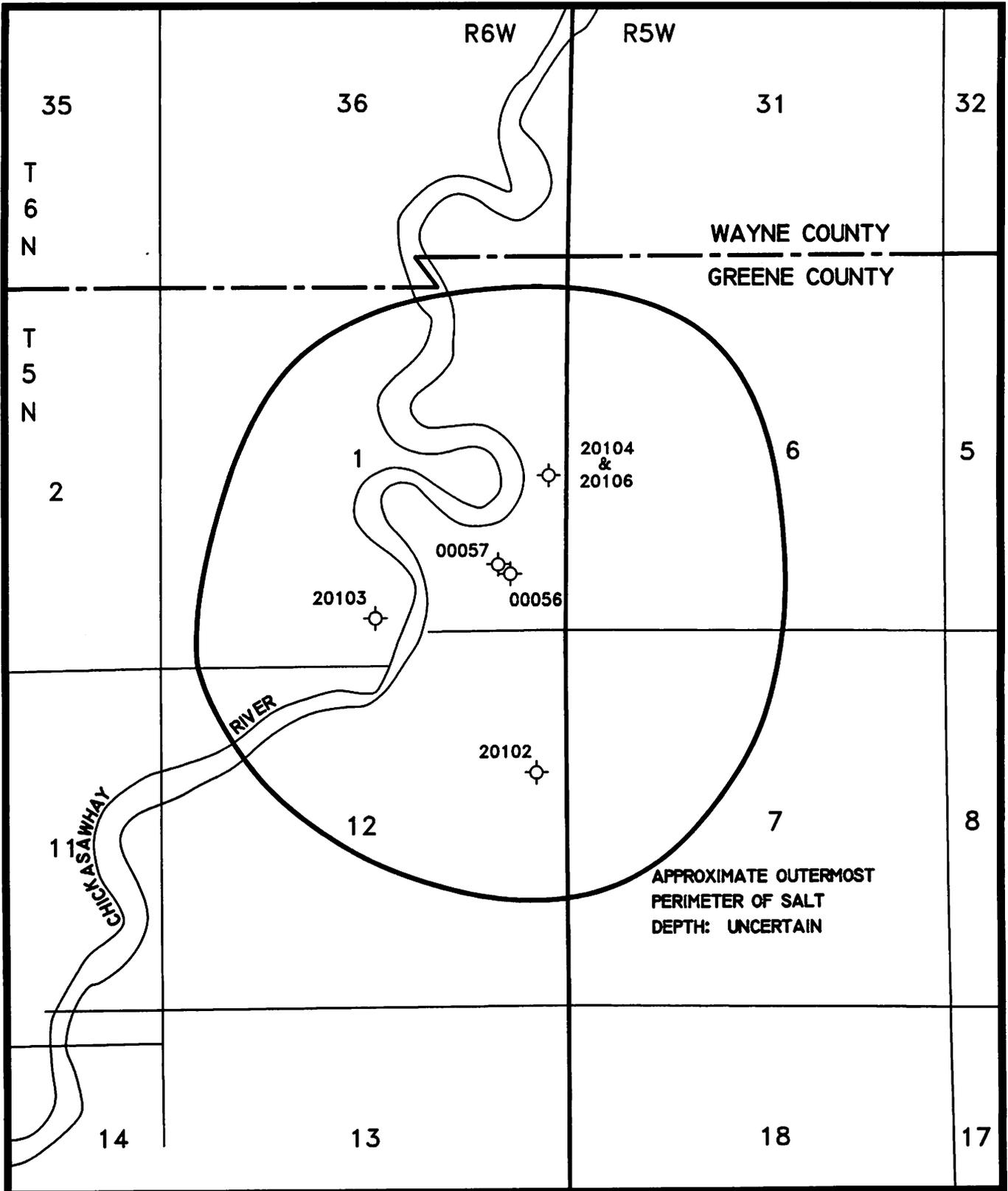
Geophysical logs: None run

Comments: Stratigraphic test

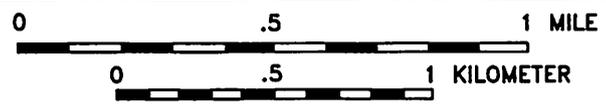
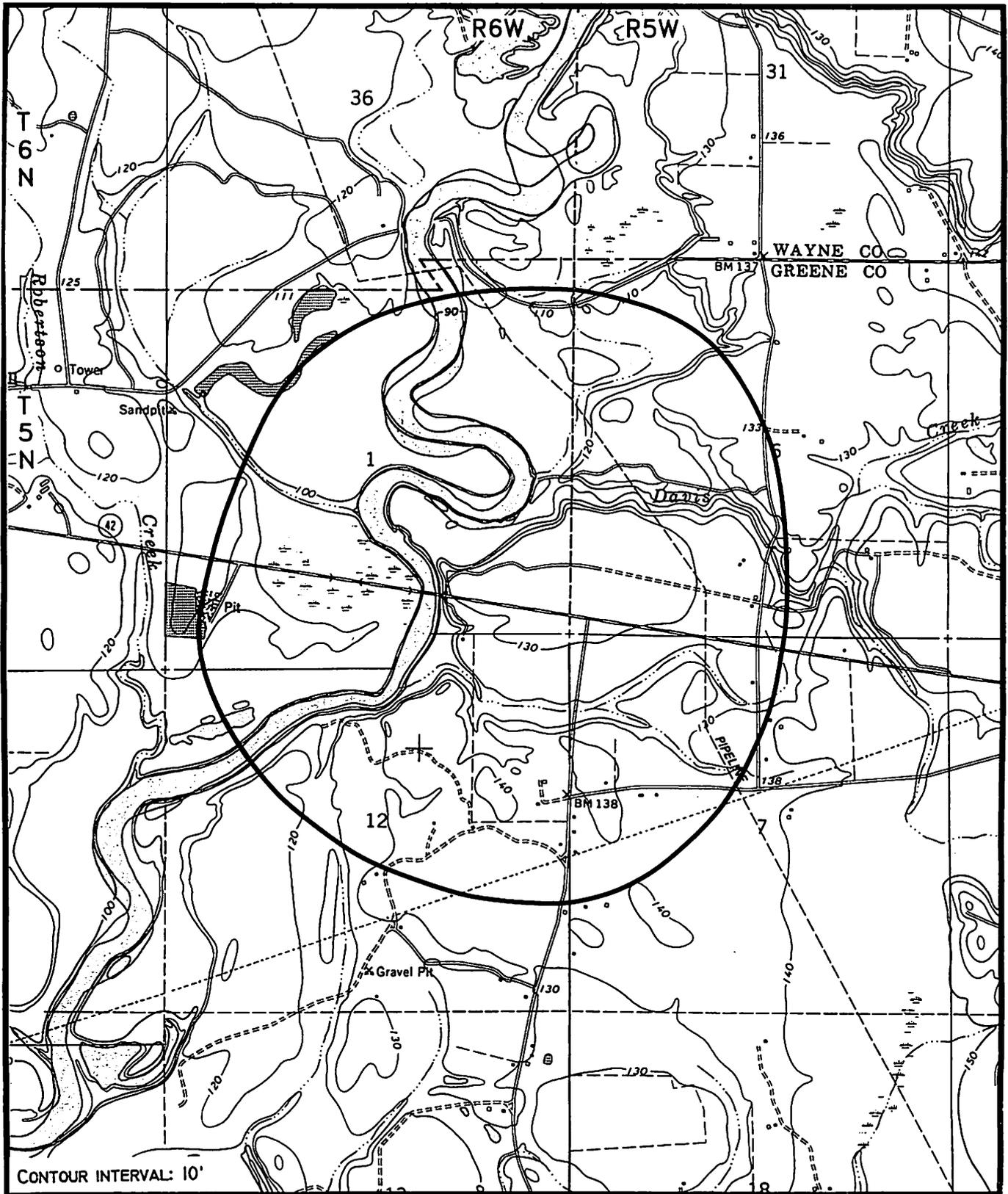
Completed: D&A 11/1990

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COUNTY LINE DOME
FIGURE 31



COUNTY LINE DOME
FIGURE 32

CYPRESS CREEK SALT DOME (Agnes, Camp Shelby, New Augusta)

GENERAL DATA

Location: Sections 4,5,8,9,10,15,16,17,20,21-T2N-R10W, Perry County, Mississippi

USGS topographic map(s): Beaumont, Janice, New Augusta, Taylor Hill

Geophysical data: Strong gravity minimum

Estimated size and shape: The salt plug is mushroom shaped with a sizeable overhang on the south side. Below the overhang, and above expansion at the base, the dome is nearly circular, 1.7 miles in diameter.

Estimated base fresh water (10,000 ppm): -1,500'

Economic use: Oil production on west flank, Camp Shelby Field

Shallowest known cap rock: 1,182' (Law Engineering Testing Company Site/No. MCCG-1 DOE-U. S. A.)

Shallowest known salt: 1,298' (Shell Oil Company No. 1 U. S. A. 8-14)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Shell Oil Company No. 1 U. S. A. 17-6)

Nearest oil or gas production: Camp Shelby Field produces from the Paleocene Clayton Formation, the Upper Cretaceous Lower Tuscaloosa Formation, and the Lower Cretaceous Hosston and Paluxy formations under an overhang on the west flank of the dome.

DRILLING HISTORY

Discovery well: Shell Oil Company No. 1 U. S. A. 8-11

API well number: 23-111-20004

Location: 1,872' FSL and 1,409' FWL of Section 8-T2N-R10W

Elevation: 234' GL, 262' DF, 263' KB

Total depth: 16,119'

Reported formation tops: (scout ticket)

salt	1,320'-4,811'
cap rock	1,326'(?)-4,817'
chalk	8,230'
Eutaw	10,600'
Lower Tuscaloosa	11,537'
Lower Cretaceous	11,990'
Ferry Lake anhydrite	14,820'
base Ferry Lake anhydrite	15,032'

Geophysical logs: Dresser Atlas Laterolog 720'-8,651', Dual Induction Focused Log 4,646'-16,117', BHC-AL/C-GR, CDL-C-GR, SWN-GR, SWC

Comments: Discovery well for Camp Shelby Field and Cypress Creek Dome. Completed for 214 BOPD, 0 MCFG-1, 1 BWPD, 18° gravity, pumping, from Paluxy perforations, 13,309'-14', 13,318'-29', and 13,395'-412'. Tested 42 BOPD, 1/2" choke, 1,200-0# TP, 18 1/2° gravity. Cored 13,395'-429', 2 cores, recovered sand with oil show. Encountered severe drilling problems at 13,747'. The borehole is 311' N and 378' E of surface location at measured depth 13,747' and true vertical depth 13,712'. Worked over

to Clayton Formation perforations 8,216'-48', 8,500'-30', and 8,593'-620', pumping 180 BOPD, 1 BWPD, 28° gravity, on 3/1973. This is a replacement well for the Shell Oil Company No. 1 U. S. A. which had hole problems at 2,262'.
Completed: 9/1972

Additional drilling:

Well: F. E. Courson et al. No. 2 J. J. Newman Lumber Company

API well number: 23-111-00008

Location: 825' NSL and 2,100' EWL of Section 2-T2N-R10W

Elevation: 173' GL (topographic map), 188'? (scout ticket)

Total depth: 3,027'

Reported formation tops: (scout ticket)

Heterostegina	1,259'
V. (Vicksburg?)	1,734'
C.R. (Cane River?)	2,556'
W. (Wilcox?)	2,662'

A second set of tops, by Gulf Research, is hand written on the scout ticket also:

Het. zone	1,435'
Chickasawhay	1,772'
Vicksburg?	2,053'
Jackson	2,160'
Cockfield	2,410'
Cook Mountain	2,532'
Sparta	2,850'

Geophysical logs: Schlumberger over unknown interval

Comments: Drillers log notes cores at 1,473', 1,726', 1,785', 1,830', 2,169', 2,286', 2,483', 2,745', 2,866', and 3,027'.

Completed: 1/1937

Well: United States Borax and Chemical Corporation No. 4-1 Cypress-USB

API well number: 23-111-20095

Location: 1,492' FWL and 264' FSL of Section 4-T2N-R10W

Elevation: 215' GL (topographic map), 241' GL (Mississippi State Oil and Gas Board well file)

Total depth: 1,250'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

sand with limestone 1,200'-1,250'

Geophysical logs: None run

Comments: Sulphur test

Completed: 3/1991

Well: United States Borax and Chemical Corporation No. (1) 4-2 Cypress-USB

API well number: 23-111-20096

Location: 1,498' FWL and 225' FSL of Section 4-T2N-R10W

Elevation: 215' GL (topographic map), 241' GL (Mississippi

State Oil and Gas Board well file)

Total depth: 1,254'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

limestone cap rock 1,200'-1,252'

anhydrite cap rock 1,252'-1,254'

Geophysical logs: Layne Electric Log 198'-1,202', Radioactivity Log 60'-1,205'

Comments: Sulphur test

Completed: 3/1991

Well: Shell Oil Company No. 1 U. S. A.

API well number: 23-111-20003

Location: 1,900' FSL and 1,400' FWL of Section 8-T2N-R10W

Elevation: 234' GL (topographic map)

Total depth: 2,262'

Reported formation tops:

Geophysical logs: Not logged

Comments: "Hole cratered below 16" casing" (scout ticket). Shell replaced this well with the No. 1 U. S. A. 8-11 on the same drilling pad.

Completed: J&A 1/1972

Well: Shell Oil Company No. 1 U. S. A. 8-6

API well number: 23-111-20008

Location: 1,980' FNL and 1,980' FWL of Section 8-T2N-R10W

Elevation: 248' GL, 279' DF, 280' KB

Total depth: 14,010'

Reported formation tops:

cap rock 1,399'-4,281' (overhang-Law Engineering Testing Company)

salt 1,447' (scout ticket)

salt 1,456'-4,019' (overhang-Law Engineering Testing Company)

salt 1,383'-4,285' (overhang-Shell Oil Company)

Geophysical logs: Dresser Atlas Dual Induction Focused Log 8,973'-14,009', C.L.-C-GO, CBL-GO 3,000'-5,700', LL-GO, PROX/LOG

Comments: Tested perforations 8,695'-711', acidized, flowed oil, mud, and salt water at rate of 6 gallons per hour, 1/4" choke, 90# TP. Tested perforations 7,968'-8,245', no results given. Completed as a salt water disposal well through perforations 7,968'-8,245' (overall). Worked over to perforations 5,390'-450' for salt water disposal 4/1977.

Completed: 3/1973

Well: Shell Oil Company No. 1 U. S. A. 8-14

API well number: 23-111-20020

Location: 600' FSL and 2,100' FWL of Section 8-T2N-R10W

Elevation: 261' KB

Total depth: 13,900' sidetrack hole

Reported formation tops: (Law Engineering Testing Company)

cap rock 1,190' (Beckman)

cap rock 1,263'-8,839' (overhang)

salt 1,298'-8,633' (overhang)

Geophysical logs: Schlumberger Dual Induction-Laterolog 1,400'-13,855', FDC/CNL/GO, HDT, ST

Comments: Stuck drill pipe, unable to recover, sidetracked at 10,090'. Completed for 121 BOPD, 15 BWPD, 30 MCFGPD, pumping, 248:1 GOR, 22° gravity, from Paluxy perforations 13,202'-12', 13,368'-83', 13,395'-408', and 13,412'-29'. Perforations 13,556'-606' swabbed oil and water. At measured depth 13,900', true vertical depth is 13,891', and the borehole is 149' N and 261' E of the surface location.

Completed: 2/1977

Well: Shell Oil Company No. 1 U. S. A. 10-5

API well number: 23-111-20011

Location: 1,550' FNL and 360' FWL of Section 10-T2N-R10W

Elevation: 232' GL, 263' DF, 264' KB

Total depth: 16,390'

Reported formation tops: (Law Engineering Testing Company)

cap rock 1,357'-3,555' (overhang)

salt 1,426'-3,502' (overhang)

Geophysical logs: Schlumberger Dual Induction-Laterolog 4,498'-9,580', 15,697'-16,384', Dual Laterolog 1,473'-3,989', Continuous Directional 15,740'-16,378', Compensated Neutron-Formation Density 12,002'-16,309'

Comments: Scout ticket-perforations 15,461'-648', 15,788'-814' and 15,878'-900', flowed 282 BO, operations suspended 5/1973. Mississippi State Oil and Gas Board Form 3 completion report-perforations 14,356'-63', 14,368'-91' 15,792'-16,039', swab tested 100% water. Shell experienced severe drilling problems. At 15,640', the borehole is 230' FEL and 2,260' FNL of section 9.

Completed: D&A 9/1976

Well: Fina Oil & Chemical Company No. 1 Board of Education 16-16

API well number: 23-111-20108

Location: 700' N and 2,000' W of SE/corner of Section 16-T2N-R10W. Proposed bottom hole location is 660' N and 660' W of SE/corner of Section 16.

Elevation: 238' GL

Total depth: Permitted depth 13,500'

Reported formation tops:

Geophysical logs:

Comments: Total depth reached 11/27/1994

Completed:

Well: Fina Oil & Chemical Company No. 1 U. S. A. 17-10

API well number: 23-111-20104

Location: 1,800' N and 2,250' E of SW/corner of Section 17-T2N-R10W

Elevation: 222' GL, 248' DF, 249' KB

Total depth: 13,175'

Reported formation tops:

Geophysical logs: Schlumberger Dual Induction/SFL BHC Sonic Gamma Ray/Caliper 8,596'-13,160'

Comments:

Completed:

Well: Shell Oil Company No. 17-6 U. S. A

API well number: 23-111-20015

Location: 1,976' FNL and 2,125' FWL of Section 17-T2N-R10W

Elevation: 210' GL, 240' KB

Total depth: 16,508'

Reported formation tops: (Law Engineering Testing Company)

salt 1,410'-8,520' est.

Geophysical logs: Schlumberger Electrical Log 9,158'-14,700', Dual Induction-Laterolog 8,500'-16,500', Borehole Compensated Sonic 1,449'-16,507', Compensated Neutron-Formation Density 9,154'-16,505', McCullough Cement and-or Sonic-Seismogram Gamma Ray 8,850'-13,224'

Comments: Completed for 169 BOPD, 2 BWPD, 22.6° gravity, 150 MCFGPD, pumping, GOR 887:1 from Paluxy perforations (reported as Hosston) 12,865'-74', 12,893'-911', 12,944'-55', 12,999'-13,013', 13,074'-83', and 13,179'-203'. Shell experienced severe directional hole problems while drilling. The borehole crossed the unit line somewhere below 13,100'.

Completed: 10/1975

Well: Phillips Petroleum Company No. 1 J. J. Newman Lumber Co.

API well number: 23-111-00070

Location: 828' FSL and 2,048' FWL of Section 21-T2N-R10W

Elevation: 222' DF

Total depth: 8,434'

Reported formation tops: (scout ticket)

Heterostegina 1,558'

Vicksburg 1,915'

Jackson 2,250'

Minden 2,385'

Geophysical logs: Schlumberger 1,591'-8,437'

Comments: Many maps incorrectly show this well in section 20.

Completed: D&A 3/1938

Well: Shell Oil Company No. 1 U. S. A. 26-11

API well number: 23-111-20009

Location: 1,870' FSL and 1,573' FWL of Section 26-T2N-R10W

Elevation: 225' GL, 241' DF, 242' KB

Total depth: 14,476'

Reported formation tops:

Geophysical logs: Schlumberger Dual Induction-Laterolog 54'-14,470', FDC/CNL-GO, BHC, HDT

Comments: Cored 13,551'-607', recovered 50' sand and conglomerate, with oil show from 13,551'-63.64', 13,567.68'-69.70', and 13,588.89'-600', and 3' shale.

Completed: D&A 12/1973

DISCUSSION

Cypress Creek Dome is one of three salt domes in Mississippi studied by Law Engineering Testing Company

under subcontract to Battelle Memorial Institute, Office of Nuclear Waste Isolation, the lead National Waste Terminal Storage (NWTS) contractor, under contract with the U. S. Department of Energy for the purpose of identifying suitable sites for a nuclear waste repository. This area characterization study included local and regional studies of geologic structure, stratigraphy, geomorphology, tectonics, seismicity and resource analysis. Gravity modeling using gravity data, seismic and well log data was done to model the size and shape of the salt stocks. A series of test wells, reported below, was drilled as part of this study.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MCCG-1 DOE-U.S.A. (U.S.F.S.)

API well number: 23-111-20035

Location: 2,702' FWL and 2,528' FSL of Section 9-T2N-R10W

Elevation: 221' GL, 230' DF, 231' KB (log measured from GL)

Total depth: 1,899'

Reported formation tops: (well report)

Citronelle surface

Hattiesburg 22'

cap rock 990'(Beckman)

cap rock 1,182'

salt 1,386'

Geophysical logs: Dresser Atlas Dual Induction Focused Log 58'-1,194', Dual Laterolog 1,202'-1,886', Acoustilog 59'-1,878', Compensated Density-Compensated Neutron 59'-1,886', Temperature 0-1,886', Differential Temperature 0-1,886', Caliper 58'-1,886'; U. S. G. S. Acoustical Televiwer at cap rock-salt interface; Law Engineering Density 0-1,400', Caliper 0-1,369', Temperature 0-1,390'.

Comments: This site consists of two wells, the MCCG-1 and the MCCG-1WS. The data given are for the deeper of the two wells, the MCCG-1. The shallower of the two wells, the MCCG-1WS, was drilled to 514' as a water supply well. Both wells were intended for hydrologic testing, but a pump became permanently lodged in the MCCG-1WS well and the well was abandoned 9/1979. The MCCG-1 was used for hydrologic testing and long term water level monitoring. The MCCG-1 was conventionally cored from 1,087'-145' and 1,195'-889' (3 1/2 cores), and 65 sidewall cores were taken 1/2 from 640'-1,194'. The exact location of the MCCG-1WS is unknown, but is on the same location/site as the MCCG-1, which is a 200' x 200' square.

Completed: drilling was completed and the well prepared for hydrologic testing 5/1979

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MCCG-2 DOE-U.S.A. (U.S.F.S.)

API well number: 23-111-20036

Location: 22° S 78° E of a point 1,109' FNL and 1,986' FEL of Section 33-T3N-R10W

Elevation: 197' GL, 206' DF, 207' KB (log measured from GL)

Total depth: 3,006'

Reported formation tops: (well report)

Citronelle	surface
Hattiesburg and Catahoula undifferentiated	55'
Heterostegina zone	1,300'
Chickasawhay	1,450'
Bucatanna	1,665'
Vicksburg limestone	1,756'
Red Bluff	1,917'
Yazoo clay	2,015'
Cocoa Sand	2,072'
North Twistwood Creek clay	2,138'
Moodys Branch	2,150'
Cockfield	2,175'
Cook Mountain	2,355'
Sparta	2,532'
Zilpha	2,690'
Winona	2,775'
Tallahatta	2,808'

Geophysical logs: Dresser Atlas Dual Induction Focused Log 413'-3,002', Compensated Density, Compensated Neutron 413'-3,002', Gamma Ray, Caliper 413'-3,002', Acoustic Log 413'-2,993', Temperature 0-3,006', Law Engineering Temperature 0-2,645', Differential temperature 0-2,645', U. S. G. S. Temperature 60'-411', Guard Electric Log 44'-406', Density, 28'-409', Neutron 0-417', Acoustic Velocity 0-405', Caliper 40'-410'

Comments: This site consists of two wells, the MCCG-2 and the MCCG-2WS. The data given are for the deeper of the two wells, the MCCG-2. The shallower of the two wells, the MCCG-2WS, was drilled to 412' as a water supply well. Aquifer tests and long term water level monitoring were done at both wells. 65 sidewall cores were taken in the MCCG-2 from 470'-2,950'. The MCCG-2 was drilled as a stratigraphic test well. The exact location of the MCCG-2WS is unknown, but is on the same location/site as the MCCG-2, which is a 200' x 200' square.

Completed: casing was set and the well prepared for hydro-logic testing 5/1979

Site MCCH-3

The following five wells were drilled from the same site. The same location plat is used for all five wells in DOE publications summarizing the drilling. The plat gives the location and description of the site, but not the specific location of each well. The plat description is as follows: "Description: a parcel of land in the Southeast 1/4 of the Southeast 1/4, Section 33, Township 2 North, Range 10 West, Perry County, MS, and more particularly described as commencing at the Northwest Corner of the Southeast 1/4 of the Southeast 1/4 of the above said Section 33; thence South 458.9'; thence East 119.06' to the Point of Beginning; thence S 75°00' E 400'; thence S 15°00' W 400'; thence N 75°00' W 400'; thence N 15° E 400' to the Point of Beginning." The wells are shown on the plat as being nearly at the corners of an approximately 100' square, which is centered in the above described site, and oriented with its sides parallel to the described site. The locations given

below are from the Mississippi State Oil and Gas Board well files.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MCCH-3A DOE-U.S.A. (U.S.F.S.)

API well number: 23-111-20037

Location: 1,084' WEL and 681' NSL of Section 33-T2N-R10W. The MCCH-3A is at the NW corner of the previously described square.

Elevation: 258' GL (log measured from GL)

Total depth: 3,359'

Reported formation tops: None

Geophysical logs: Dresser Atlas BHC Acoustilog 56'-3,354', Dual Induction Focused Log 56'-397' and 407'-3,363', Temperature and Differential Temperature 0-3,360', Compensated Density and Compensated Neutron 56'-397' and 407'-3,363', Gamma Ray, Caliper 56'-397' and 407'-3,363', Law Engineering caliper, Gamma Ray, Density 0-3,119', Neutron 0-400', long and short normal, spontaneous potential 0-3,310', Temperature and Differential Temperature 0-3,031'

Comments: Aquifer tests were run. The MCCH-3A was drilled as a stratigraphic test well. Sidewall cores were taken from 460'-3,360'.

Completed: The well was drilled, logged and prepared for aquifer testing and water level monitoring 5/1979.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MCCH-3B DOE-U.S.A. (U.S.F.S.)

API well number: 23-111-20038

Location: 1,030' WEL and 546' NSL of Section 33-T2N-R10W. The MCCH-3B is located at the SE corner of the previously described square.

Elevation: 258' GL, 267' DF, 268' KB (log measured from GL)

Total depth: 4,100'

Reported formation tops: (well report)

Citronelle	surface
Hattiesburg and Catahoula Fm. (upper zone)	115'
Heterostegina zone	1,735'
lower Catahoula Formation	2,010'
Chickasawhay Formation	2,106'
Bucatanna Formation	2,220'
Vicksburg	2,282'
Red Bluff Formation	2,500'
Yazoo clay	2,598'
Pachuta Marl and Cocoa Sand	2,660'
North Twistwood Creek	2,780'
Moodys Branch	2,790'
Cockfield Formation	2,827'
Cook Mountain Formation	3,110'
Sparta Formation	3,350'
Zilpha Formation	3,495'
Winona Formation	3,542'
Tallahatta	3,590'
Wilcox	4,090'

Geophysical logs: Dresser Atlas Temperature and Differential Temperature 0-4,106', Dual Induction Focused Log Gamma Ray 70'-4,104', Caliper 68'-4,104', Compensated Densilog, Compensated Neutron 407'-4,104', BHC Acoustilog 407'-4,100'; Law Engineering Temperature and Differential Temperature 0-3,350'

Comments: See the MCCH-3A general comments. 50 side-wall cores were taken from 1,716'-4,090'.

Completed: 6/1979 except for additional geophysical logging, aquifer testing and long term water level monitoring.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MCCH-3C DOE-U.S.A. (U.S.F.S.)

API well number: 23-111-20039

Location: 984' WEL and 641' NSL of Section 33-T2N-R10W. The MCCH-3C is located at the NE corner of the previously described square.

Elevation: 258' GL, 264' DF, 265' KB (log measured from GL)

Total depth: 2,007'

Reported formation tops: None

Geophysical logs: Dresser Atlas Dual Induction Focused Log, Caliper, Gamma Ray 60'-2,014'; Law Engineering Temperature 0-1,738'

Comments: See MCCH-3A general comments.

Completed: 6/1979 except for re-working, additional geophysical logging, aquifer testing, and long term water level monitoring.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MCCH-3D DOE-U.S.A. (U.S.F.S.)

API well number: 23-111-20040

Location: 1,129' WEL and 696' NSL of Section 33-T2N-R10W. The MCCH-3D is located near the SW corner of the previously described square.

Elevation: 258' GL (log measured from GL)

Total depth: 1,251'

Reported formation tops: None

Geophysical Logs: Law Engineering Gamma Ray, Caliper, Single Point Resistance 0-1,205', Spontaneous Potential, Long and Short Normal 48'-1,178', Temperature and Differential Temperature 0-1,200'

Comments: See MCCH-3A general comments.

Completed: 5/1979 except for additional geophysical logging, aquifer testing, and long term water level monitoring.

Well: Law Engineering Testing Company Site/No. MCCH-3WS DOE-U.S.A.

API well number: None

Location: 110' due W of the Stone & Webster Engineering Corporation No. MCCH-3A. The MCCH-3WS is located near the mid-point of the west side of the previously described site.

Elevation: 254' GL (well report), 258' GL (log heading) (log measured from GL)

Total depth: 443'

Reported formation tops: None

Geophysical logs: U.S.G.S. Gamma Ray 0-445', Long and Short Normal, Spontaneous Potential 92'-446', Guard Focused Resistivity 55'-440', Caliper 0-439'

Comments: Water supply well. This well was not permitted by the Mississippi State Oil and Gas Board as it did not penetrate below the base of fresh water. Also see MCCH-3A general comments.

Completed: 3/1979 except for additional geophysical logging, aquifer testing, and long term water level monitoring.

"Fifty shallow borings were drilled in the vicinity of Cypress Creek Salt Dome during area studies of the NWTS program. Twenty 'series 100' borings were drilled from April to May 1979 and 30 'series 200' borings were drilled from April to May 1980. Natural gamma ray, single point resistance, short and long normal resistivity and spontaneous potential logs were run on these borings (Law Engineering Testing Company, 1982, ONWI-165). The 'series 100' borings were from 76' to 201' deep. Three 'series 100' borings were abandoned at depths from 13' to 26' and were not logged. The 'series 200' borings were from 72' to 211' deep. None of these borings reached domal material. Data tables for the 'series 100' and 'series 200' borings are included from Law Engineering Testing Company, 1982, (ONWI-165).

PRODUCTION

Cumulative Production to 01/01/1995

	Oil (barrels)	Gas (MCF)
Camp Shelby Field		
Clayton	310,585	125,910
Lower Tuscaloosa	29,003	0
Paluxy	481,133	211,996
Hosston	466	1,814

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Table 1

Summary of data for
100 & 200 series shallow borings
at the Cypress Creek Dome

From Law Engineering Testing Company, 1982, ONWI-165

Boring No.	Location	Owner	Contractor	Date Boring Began-Completed	Ground Level Elevation (feet,MSL)	Total Depth of Hole (feet)	Hole Diameter (inches)	Geophysical Logs
MCCG-101	1029.0' FNL 2170.0' FEL Sec 4 T2N R10W	U.S. Forest Service	Pope Testing	4/18/79 4/19/79	034.5	170.5	8 (0-155') 5 (155'-170')	Gamma Electric
MCCG-102	2029.3' FNL 2110.2' FEL Sec 21 T2N R10W	U.S. Forest Service	Pope Testing	4/29/79 4/30/79	247.8	200.5	5 7/8	Gamma Resistivity SP
MCCG-103	2394.7' FNL 1496.2' FWL Sec 28 T2N R10W	U.S. Forest Service	Pope Testing	5/14/79 5/18/79	248.5	270.0	5 7/8	Gamma
MCCG-104	700.1' FNL 1959.2' FWL Sec 5 T2N R10W	U.S. Forest Service	Southern Earth Sciences	5/7/79 5/8/79	241.0	95.5	5 7/8	Resistivity/SP Gamma
MCCG-105	515.2' FSL 466.2' FWL Sec 5 T2N R10W	U.S. Forest Service	Southern Earth Sciences	5/12/79 5/13/79	272.9	90.5	5 7/8	Gamma
MCCG-106	1002.7' FSL 1336.4' FEL Sec 4 T2N R10W	U.S. Forest Service	Southern Earth Sciences	5/10/79 5/12/79	259.8	110.5	5 7/8	Gamma/ Resistivity
MCCG-107	3162.1' FNL 899.0' FWL Sec 8 T2N R10W	U.S. Forest Service	Pope Testing	5/2/79 5/2/79	252.6	95.5	5 7/8	Resistivity Gamma SP
MCCG-108	2457.2' FSL 1816.5' FWL Sec 9 T2N R10W	U.S. Forest Service	Pope Testing	5/16/79 5/16/79		20.5		N/A
MCCG-109	1867.4' FSL 1430.5' FWL Sec 9 T2N R10W	U.S. Forest Service	Pope Testing	5/14/79 5/15/79	Est. 205	20.5		N/A
MCCG-110	1390.1' FNL 2663.7' FEL Sec 10 T2N R10W	U.S. Forest Service	Pope Testing	5/10/79 5/12/79	240.8	86.0	5 7/8	Gamma

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MCCG-111	5180.9' FNL 3027.6' FWL Sec 8 T2N R10W	U.S. Forest Service	Southern Earth Sciences	5/15/79 5/16/79	207.9	120.5	5 7/8	Resistivity Gamma SP
MCCG-112	88.4' FSL 1014.5' FWL Sec 11 T2N R10W	U.S. Forest Service	Pope Testing	4/25/79 4/26/79	317.7	180.5	5 7/8	Resistivity Gamma SP
MCCG-113	914.4' FNL 710.0' FWL Sec 17 T2N R10W	U.S. Forest Service	Pope Testing	5/1/79 5/1/79	269.4	85.5	5 7/8	Resistivity Gamma SP
MCCG-114	296.7' FSL 1200.2' FWL Sec 15 T2N R10W	U.S. Forest Service	Southern Earth Sciences	5/8/79 5/9/79	231.9	75.5	5 7/8	Resistivity Gamma SP
MCCG-115	2620.8' FNL 1918' FWL Sec 20 T2N R10W	U.S. Forest Service	Southern Earth Sciences	5/14/79 5/15/79	189.7	155.5	5 7/8	Gamma
MCCG-116	Not Surveyed	U.S. Forest Service	Pope Testing	5/17/79 5/17/79	Est. 180	25.5		N/A
MCCG-117	458.6' FNL 142.3' FEL Sec 28 T2N R10W	Nat. Forest Service	Pope Testing	5/17/79 5/17/79	246.2	110.5	5 7/8	Resistivity Gamma SP
MCCG-118	2269.1' FNL 1314.7' FEL Sec 22 T2N R10W	Nat. Forest Service	Pope Testing	4/27/79 4/28/79	235.3	100.50	5 7/8	Resistivity Gamma SP
MCCG-119	2046.8' FNL 1281.4' FWL Sec 33 T3N R10W	Nat. Forest Service	Southern Earth Sciences	5/9/79 5/10/79	200.3	80.50	5 7/8	Resistivity Gamma SP
MCCG-120	Not Surveyed	Nat. Forest Service	Southern Earth Sciences	5/17/79 5/17/79		13.0		N/A
MCCG-201	Sec 29 T2N R10W	U.S. Forest Service	P & W Drilling, Inc.	4/28/80 4/29/80		150.5	5 7/8	Gamma Electric
MCCG-202	1442.7' FSL 1090.8' FEL Sec 15 T2N R10W	U.S. Forest Service	P & W Drilling, Inc.	4/29/80 4/29/80		100.5	0.00	Gamma Electric
MCCG-203	2468.9' FNL 2331.8' FEL Sec 18 T2N R10W	U.S. Forest Service	P & W Drilling, Inc.	4/26/80 4/27/80	236.8	99.0	0.00	Gamma Electric
MCCG-204	1040.6' FSL 384.0' FEL Sec 7 T2N R10W	U.S. Forest Service	P & W Drilling, Inc.	4/27/80 4/28/80	249.3	110.5	0.00	Gamma Electric

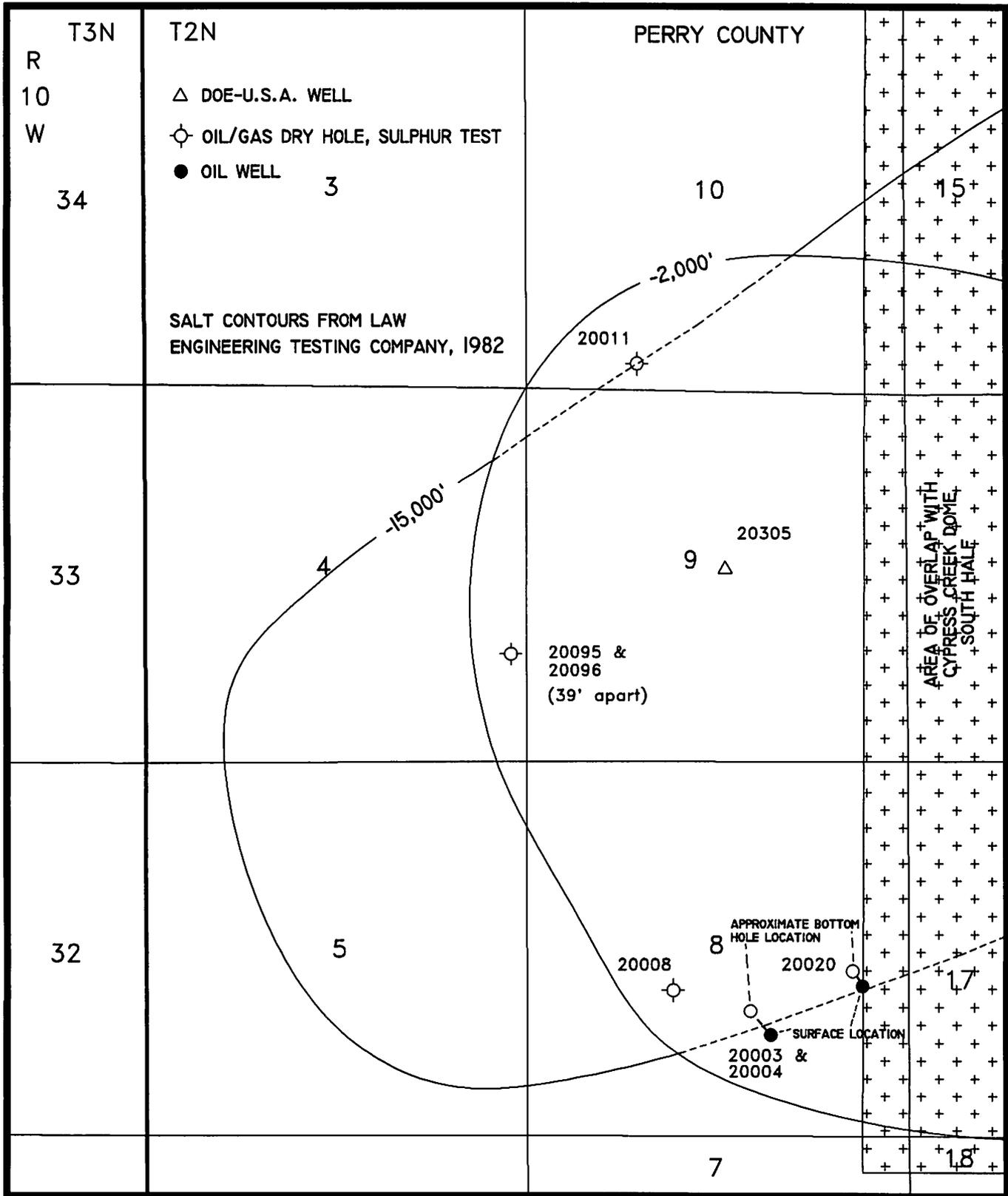
SHALLOW MISSISSIPPI SALT DOMES: CYPRESS CREEK

81

MCCG-206	452.1' FNL 14.8' FWL Sec 21 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/21/80 4/22/80	225.7	160.5	5 7/8	Gamma Electric
MCCG-207	2669.9' FSL 1005' FWL Sec 7 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/26/80 4/27/80		180.5	5 7/8	Gamma Electric
MCCG-208	964' FSL 976' FWL Sec 21 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/21/80 4/22/80	236.0	190.5	0.00	Gamma Electric
MCCG-209	Sec 17 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	5/8/80 5/9/80		100.5	0.00	Electric
MCCG-210	Sec 19 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/25/80 4/26/80	249.1	179	6	Gamma Electric
MCCG-211	3234.6' FSL 2248.4' FWL Sec 21 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/22/80 4/23/80	245.0	150.5	5 7/8	Electric
MCCG-212	Sec 8 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc	4/30/80 4/30/80		85.5	0.00	Electric Gamma
MCCG-213	Sec 22 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	5/7/80 5/8/80		120.5	5 7/8	Gamma Electric
MCCG-214	427.7' FNL 84.3' FWL Sec 28 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/23/80 4/24/80	237.5	190.5	5 7/8	Gamma Electric
MCCG-215	1753.8' FSL 911.4' FEL Sec 21 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/15/80 4/16/80	259.2	170.5	0.00	Gamma Resistivity
MCCG-216	1357.1' FNL 957.6' FEL Sec 28 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/15/80 4/17/80	243.5	210.5	5 7/8	Gamma Electric
MCCG-217	Sec 8 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/29/80 4/30/80		150.5	5 7/8	Gamma Electric
MCCG-218	Sec 17 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	5/1/80 5/7/80		100.5	0.00	Electric
MCCG-219	Sec 17 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/22/80 4/24/80		140.5	0.00	Gamma Electric

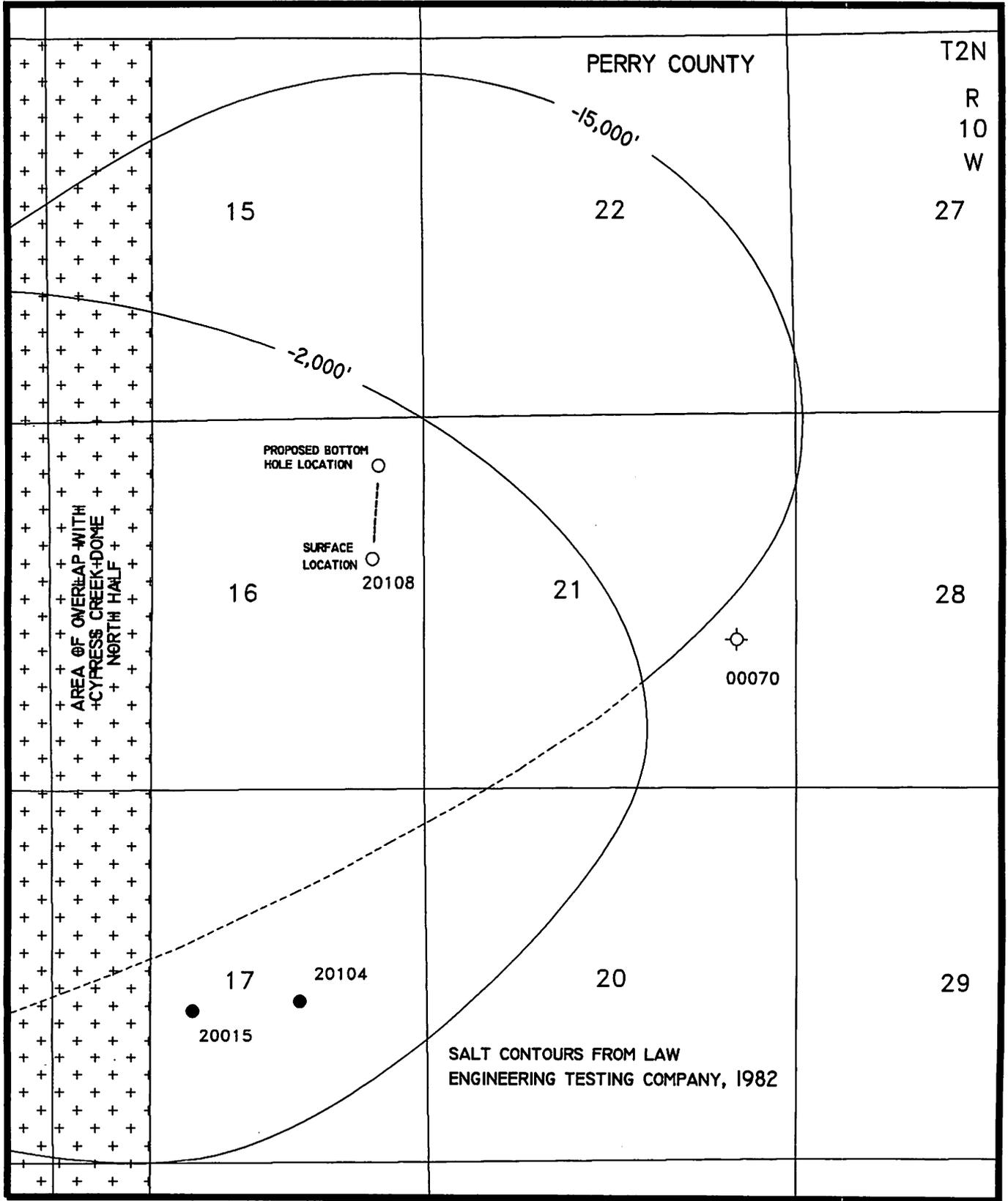
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MCCG-220	Sec 8 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/28/80 4/29/80		120.5	0.00	Gamma Electric
MCCG-221	Sec 4 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	5/8/80 5/8/80		80.5	5 7/8	Electric
MCCG-222	1332.7' FSL 2174.9' FWL Sec 17 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/23/80 4/23/80	218.2	90.5	0.00	Gamma Electric
MCCG-223	829.4 FNL 2319.7' FEL Sec 20 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/10/80 4/14/80	182.8	71.5	0.00	Gamma
MCCG-225	1388.4' FNL 2362.5' FWL Sec 20 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/23/80 4/25/80	191.2	130.5	0.00	Electric
MCCG-226	1590.9 FSL 1187.2' FEL Sec 18 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	5/8/80 5/9/80	209.8	160.5	5 7/8	Electric
MCCG-227	1408.8' FNL 226.7' FEL Sec 20 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/1/80 4/8/80	204.4	96.5	0.00	Gamma
MCCG-229	Sec 9 T2N R10W	U.S. Forest Service	P & W Drilling	4/30/80 4/30/80		80.5	0.00	Gamma Electric
MCCG-230	2020.1' FSL 148.6' FWL Sec 22 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/9/80- 4/14/80	271.4	189.0	0.00	Gamma Resistance
MCCG-231	Sec 10 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/11/80 4/14/80		90.5	5 7/8	Gamma
MCCG-232	1380.6' FNL 2281.0' FWL Sec 17 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/30/80 4/30/80	232.2	130.5	5 7/8	Gamma Electric
MCCG-233	865.8' FSL 1952.9' FEL Sec 28 T2N R10W	U.S. Forest Service	P & W Drill- ing, Inc.	4/25/80 4/26/80	235.0	149.0	5 7/8	Gamma Electric



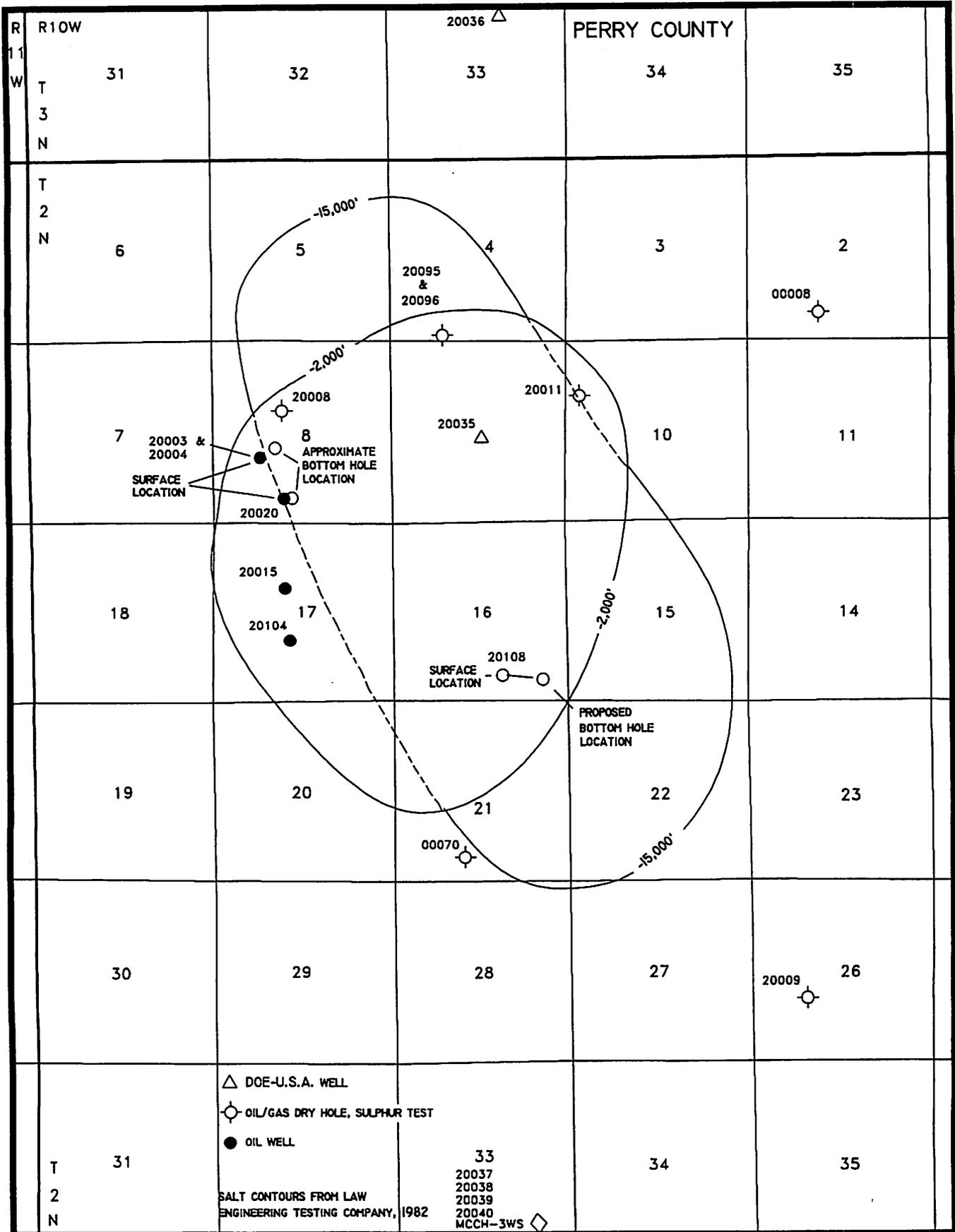
CYPRESS CREEK DOME
NORTH HALF

FIGURE 33



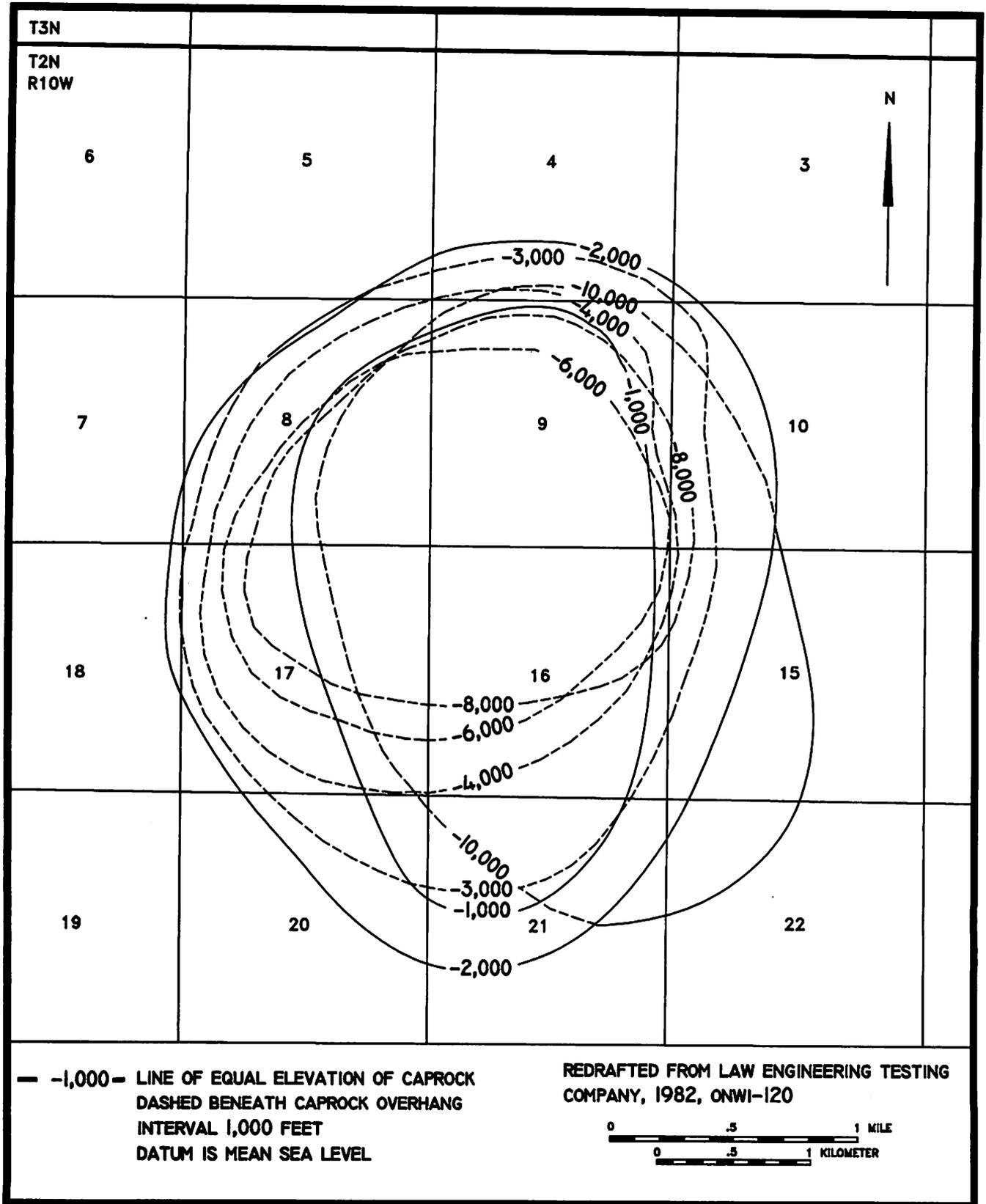
CYPRESS CREEK DOME
SOUTH HALF

FIGURE 34



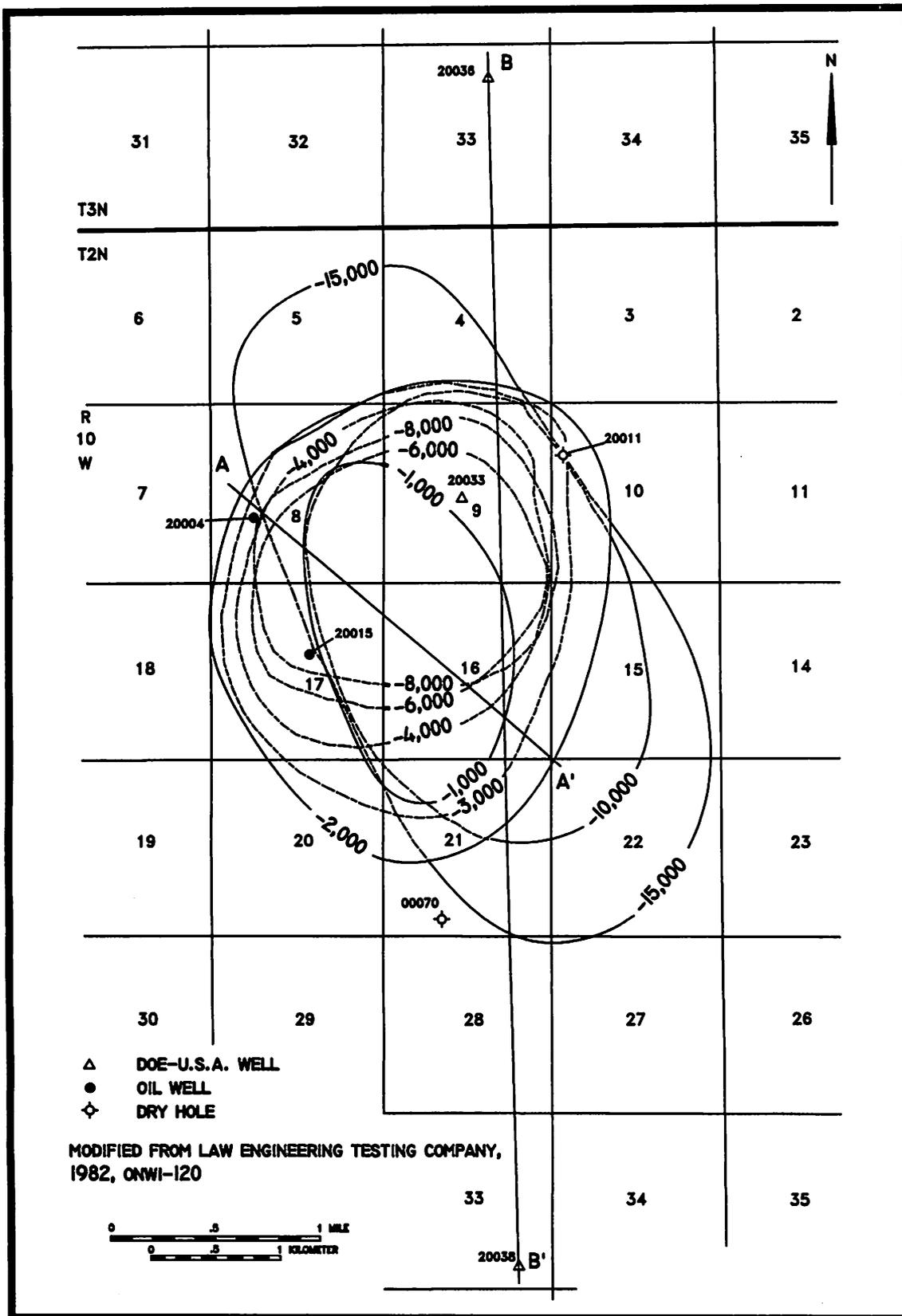
CYPRESS CREEK DOME

FIGURE 35



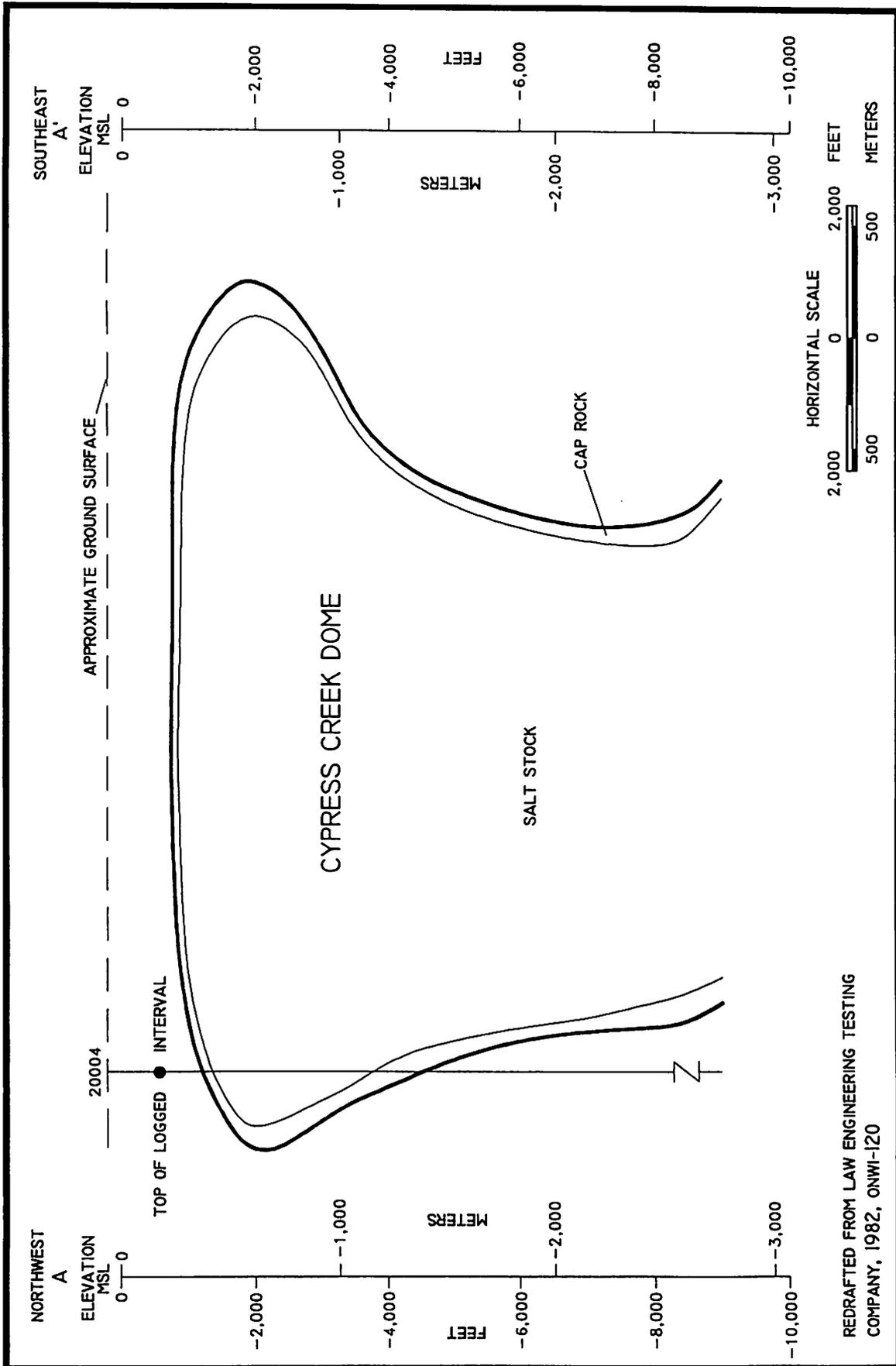
MISSISSIPPI STUDY AREA
CYPRESS CREEK DOME
STRUCTURE CONTOUR MAP OF
TOP OF CAPROCK

FIGURE 36



MISSISSIPPI STUDY AREA
 CYPRESS CREEK DOME
 STRUCTURE MAP
 TOP OF SALT

FIGURE 37



REDRAFTED FROM LAW ENGINEERING TESTING
COMPANY, 1982, ONWI-120

MISSISSIPPI STUDY AREA
CYPRESS CREEK DOME
GEOLOGIC SECTION A-A'

FIGURE 38

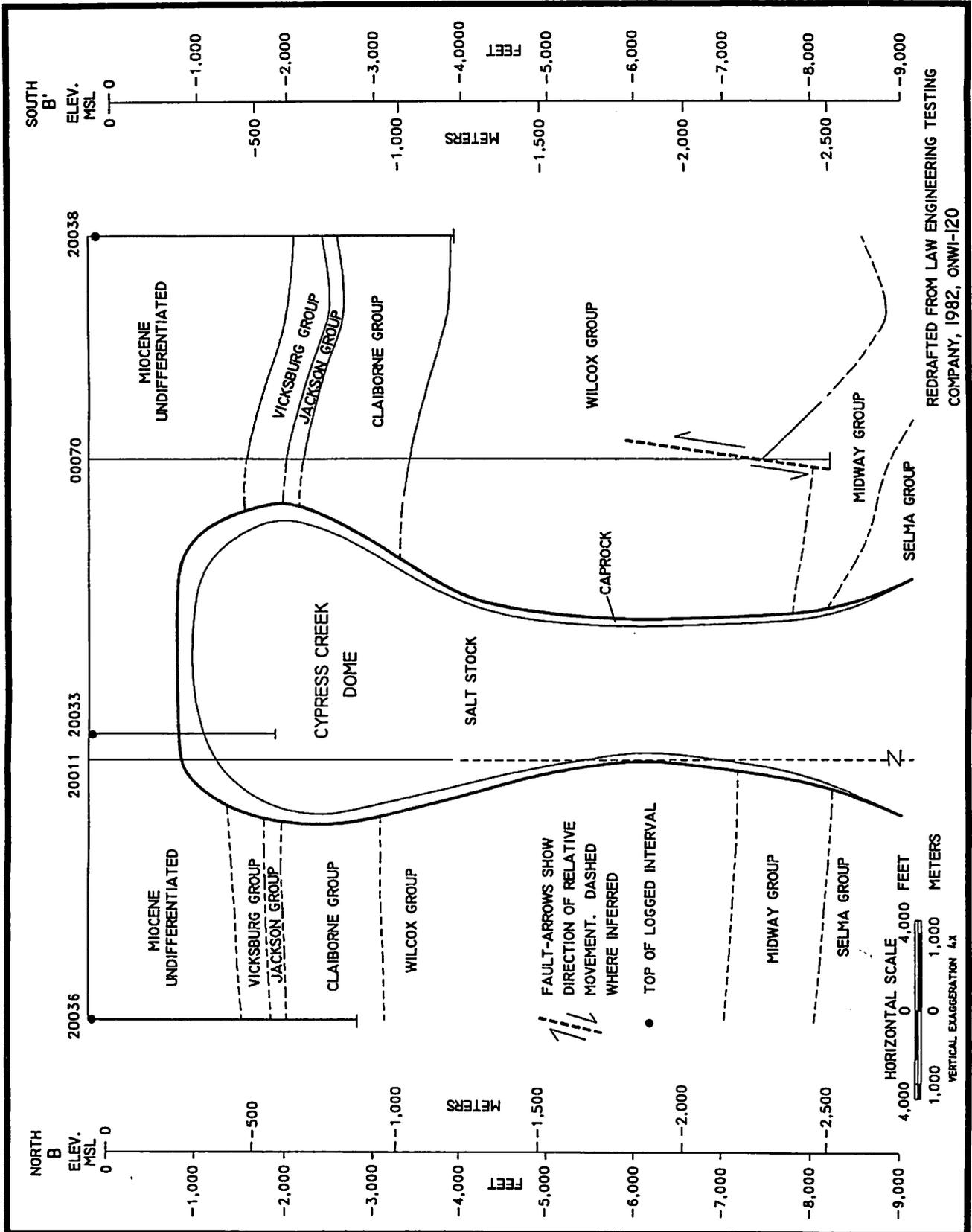
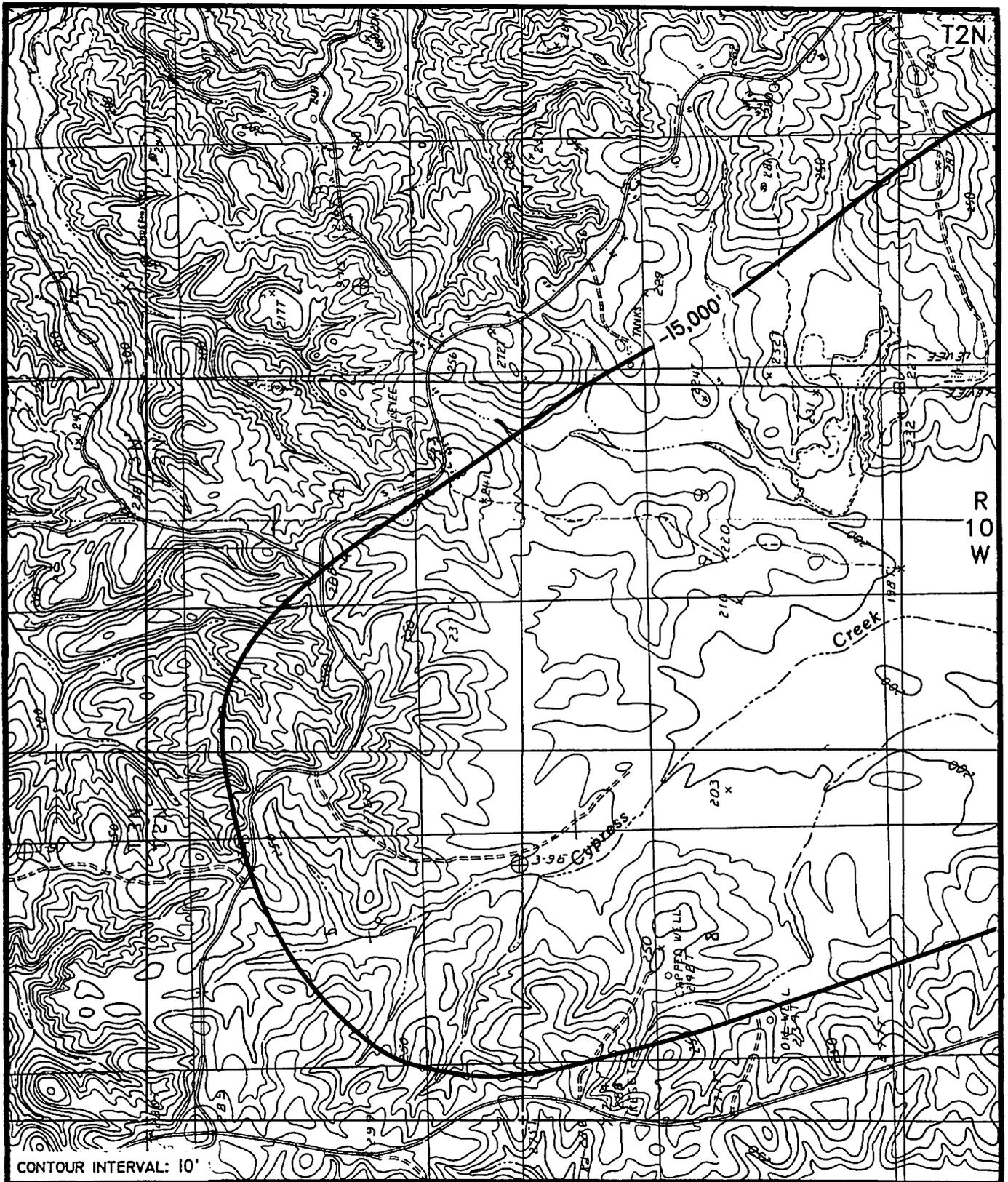


FIGURE 39



CONTOUR INTERVAL: 10'



CYPRESS CREEK DOME
NORTH HALF

FIGURE 40

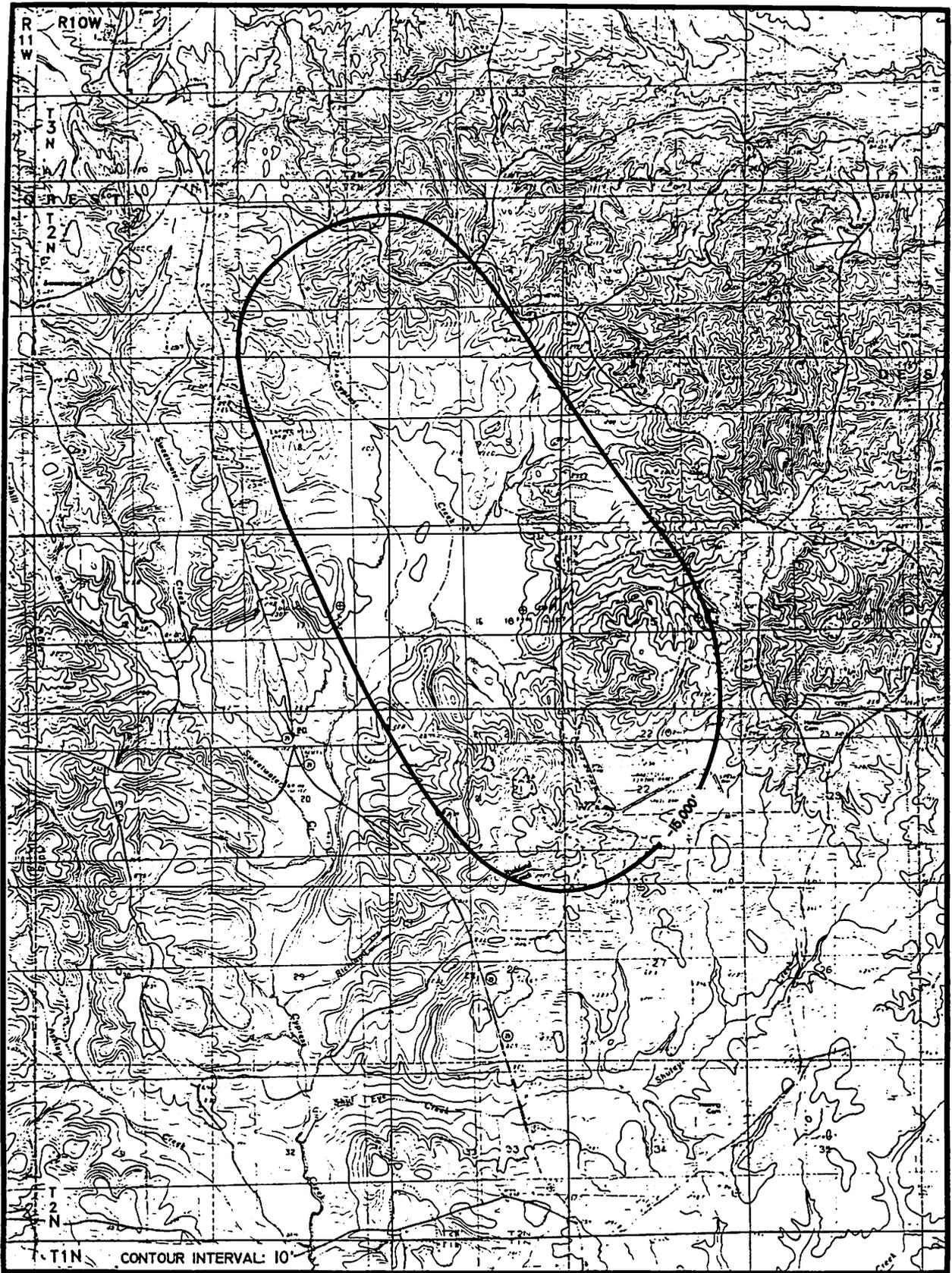


CONTOUR INTERVAL: 10'



CYPRESS CREEK DOME
SOUTH HALF

FIGURE 41



CYPRESS CREEK DOME

FIGURE 42

D'LO SALT DOME

GENERAL DATA

Location: Sections 8,9,16,17,20,21-T2N-R4E, Simpson County, Mississippi

USGS topographic map(s): Braxton, Mendenhall West

Geophysical data: Moderate gravity minimum with caprock maximum

Estimated size and shape: Oval, 1.9 miles north-south diameter, 1.5 miles east-west diameter

Estimated base fresh water (10,000 ppm): -4,100'

Economic use: None to date

Shallowest known cap rock: 2,060' (Exploro Corporation No. 1 J. A. Warren, School Lands)

Shallowest known salt: Not reached on crest, 11,012' on flank (Humble Oil & Refining Company No. 1 John Phillips)

Oldest formation penetrated within one mile of dome: Jurassic Cotton Valley Formation (E. P. Operating Company No. 1 Baugh)

Nearest oil or gas production: Merit Field, 5 miles south, produces from the Lower Cretaceous Paluxy, Mooringsport, Ferry Lake and Rodessa formations.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 Blalock-Nichols

API well number: 23-127-00058

Location: 710' FNL and 664' FEL of Section 17-T2N-R4E

Elevation: 385' DF

Total depth: 2,141'

Reported formation tops: (scout ticket)

Vicksburg 309'

Yazoo clay 418'

Moody's Branch 720'

Cockfield 740'

Cane River 1,250'

Tallahatta 1,510'

Wilcox 1,720'

cap rock 2,090'

Geophysical logs: Schlumberger 102'-2,145'

Comments: In cap rock at total depth.

Completed: D&A 9/1942

Additional drilling:

Well: Exploro Corporation No. 1 Amanda Kelly

API well number: 23-127-00122

Location: 144' S and 96' W of NE/cor of SE/4 of SE/4 of Section 8-T2N-R4E

Elevation: 402' DF

Total depth: 2,391'

Reported formation tops:

Geophysical logs:

Comments: "drilled to a total depth of 2,187' in the Wilcox" (Mellen). Sulphur test

Completed: D&A 6/1944

Well: Gulf Refining Company No. 4 Wilbe Lumber Company et al.

API well number: 23-127-00064

Location: 585' FNL and 720' FEL of Section 8-T2N-R4E

Elevation: 376' DF (log heading), 379' DF (scout ticket)

Total depth: 9,500'

Reported formation tops: (scout ticket)

Wilcox 2,548' (sample)

Midway 5,485' (sample)

Selma 6,200' (driller)

Eutaw 7,672' (Gulf)

1st Eutaw sand 7,699' (Gulf)

Tuscaloosa 8,291' (Gulf)

massive sand (Tuscaloosa) 9,407' (driller)

Geophysical logs: Schlumberger electrical log 688'-9,500'

Comments: Cored 9,411'-28', recovered 12' gray sand with no show.

Completed: D&A 4/1943

Well: Humble Oil & Refining Company No. 1 John E. Phillips et ux.

API well number: 23-127-00134

Location: 1,800' FNL and 650' FEL of Section 8-T2N-R4E

Elevation: 374' GL, 393' DF, 394' KB

Total depth: 11,076'

Reported formation tops: (scout ticket)

Midway 5,307'

chalk 5,956'

base chalk 7,140'

Lower Tuscaloosa 8,227'

Lower Cretaceous 8,946'

Ferry Lake anhydrite 10,393'

base Ferry Lake anhydrite 10,690'

1st Rodessa sand 10,890'

salt 11,012'

Geophysical logs: Schlumberger Induction-Electrical Log 100'-11,075', BS-GRC, CDD-H, CST

Comments: Perforations 10,890'-923', swabbed 1.25 BOPH of 13° gravity black oil after fracturing with 13,000# sand. In salt at total depth. Attempted 62 sidewall cores, recovered 47 from 3,928'-11,072', all no show except 10,890'.

Completed: D&A 11/1966

Well: Humble Oil & Refining Company No. 2 John E. Phillips et ux.

API well number: 23-127-00125

Location: 2,331' FEL and 330' FNL of Section 8-T2N-R4E

Elevation: 392' DF

Total depth: 14,475'

Reported formation tops: (scout ticket)

base chalk 7,720'

Lower Tuscaloosa 9,240'

Lower Cretaceous 9,540'

base Ferry Lake 13,280'

Geophysical logs: Schlumberger Induction-Electrical Log 2,715'-14,453', BSL-C, FAL, CST, CDD-H

Comments: Took 16 sidewall cores 9,604'-13,912', all no show. Directional Survey shows true vertical depth of 14,393' at measured depth 14,423', coordinates 657' S and 412' E of surface location.

Completed: D&A 11/1966

Well: Clayton W. Williams, Jr. No. 1 Robinson et al. 8-10

API well number: 23-127-20127

Location: 2,347' FSL and 2,425' FEL of Section 8-T2N-R4E

Elevation: 379' GL, 403' DF, 404' KB

Total depth: 10,667'

Reported formation tops: (scout ticket)

Midway 4,975'

chalk 5,850'-7,105'

Lower Cretaceous 8,830'

Geophysical logs: Schlumberger Dual Laterolog / Long Space Sonic 3,110'-10,124', DLT, VSP

Comments: Sidetrack hole, stuck drill pipe parted at 10,183', could not recover fish.

Completed: D&A 8/1988

Well: Exploro Corporation No. 1 Fielding Kendall

API well number: 23-127-00049

Location: 530' N and 756' E of SW/corner of SE/4 of SW/4 Section 9-T2N-R4E

Elevation: 318' GL (topographic map), 327' DF (Mississippi State Oil and Gas Board well file), 329' (scout ticket)

Total depth: 2,442'

Reported formation tops: (scout ticket)

cap rock 2,233' (Mellen)

cap rock 2,257'

anhydrite 2,360'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 5/1944

Well: O. C. Greaves (& Associates) Company et al. No. 1 Lewis Kendall

API well number: 23-127-00051

Location: 660' FNL and 660' FWL of Section 15-T2N-R4E

Elevation: 291' GL (topographic map), 301' (scout ticket)

Total depth: 2,852'

Reported formation tops: (scout ticket)

Vicksburg 230'

Jackson 418'

Yegua (Claiborne) 870'

Geophysical logs:

Comments:

Completed: D&A 5/1928

Well: Exploro Corporation No. 1 J. A. Warren, School Land

API well number: 23-127-00050

Location: 760' N and 393' W of SE/corner NW/4 of SW/4 of Section 16-T2N-R4E

Elevation: 375' DF

Total depth: 2,276'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock 2,121'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 5/1944

Well: Exploro Corporation No. 1 I. Harper

API well number: 23-127-00048

Location: 1,084' S and 1,109' W of NE/corner of NW/4 of NE/4 of Section 17-T2N-R4E

Elevation: 408' GL (topographic map)

Total depth: 2,473'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock 2,412'

Geophysical logs: "No log available on this well." (Mellen)

Comments: Sulphur test

Completed: D&A 5/1944

Well: E. P. Operating Company No. 1 Baugh

API well number: 23-127-20712

Location: 1,825' FNL and 2,450' FEL of Section 20-T2N-R4E (proposed bottom hole location: 525' FNL and 2,250' FEL of section)

Elevation: 330' GL, 357' DF, 358' KB

Total depth: 16,014'

Reported formation tops:

Geophysical logs: Atlas Wireline Services Dual Induction Focused Log BHC Acoustilog Gamma Ray 82'-15,194', CDL-CN-GR, DLL-GR-CAL

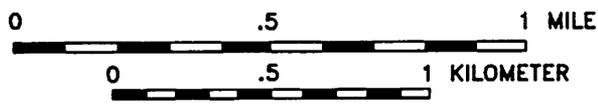
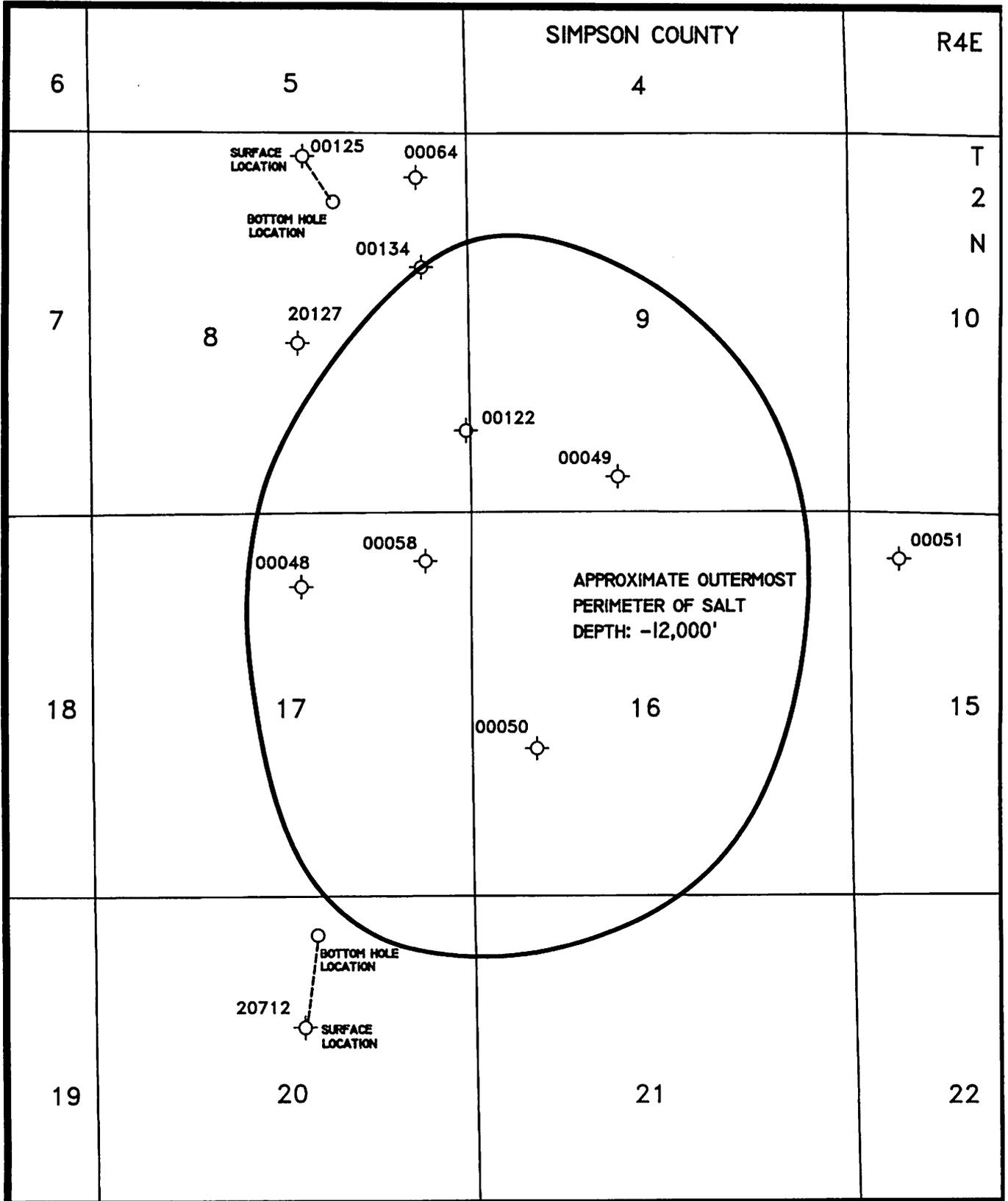
Comments: Tested Cotton Valley perforations 15,702'-841', no details released. Reported in salt at total depth. At 15,885' measured depth, true vertical depth is 15,730' and the hole is 1,172' N and 239' E of the surface location.

Completed: D&A 4/1991

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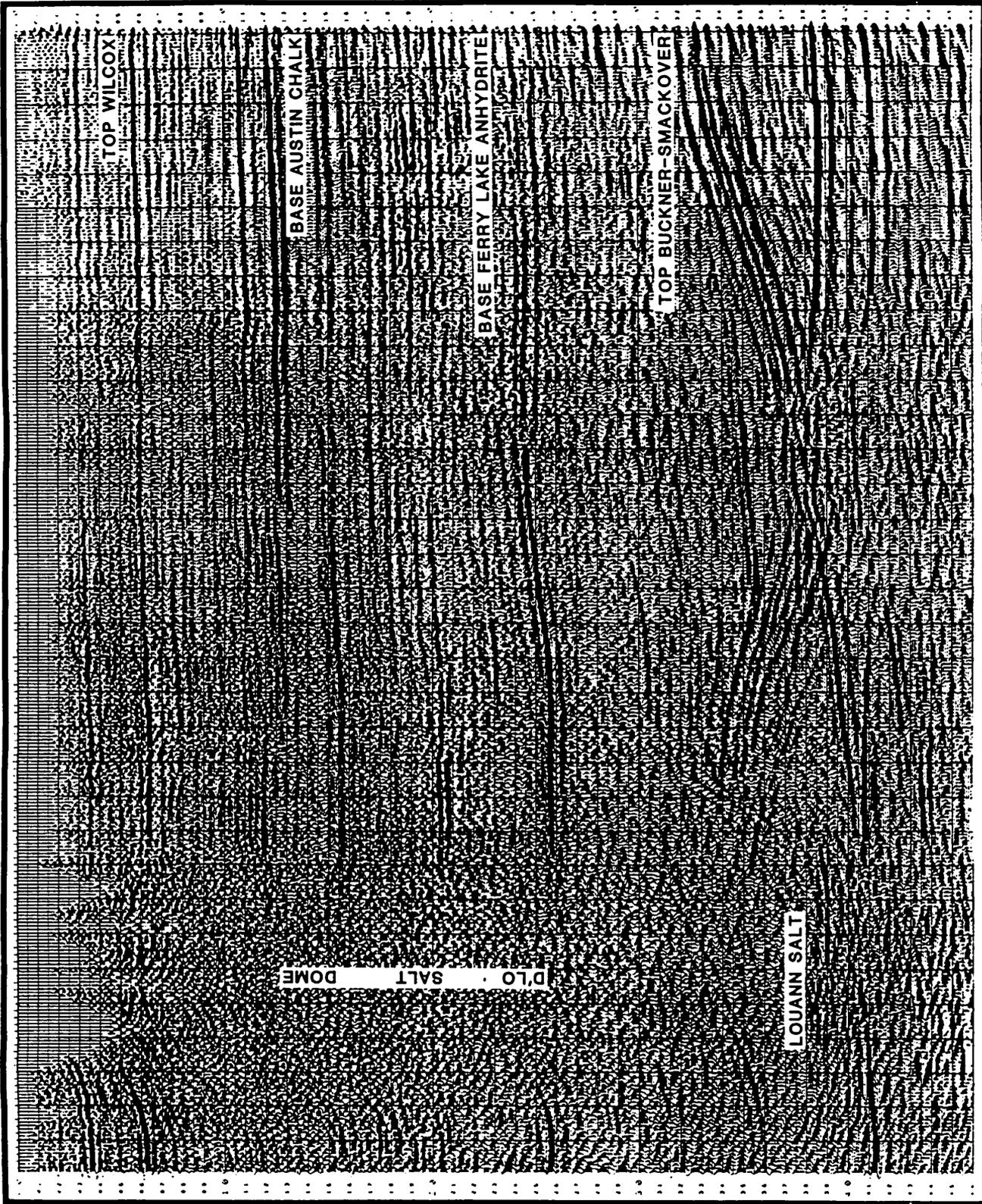
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D'LO DOME

FIGURE 43

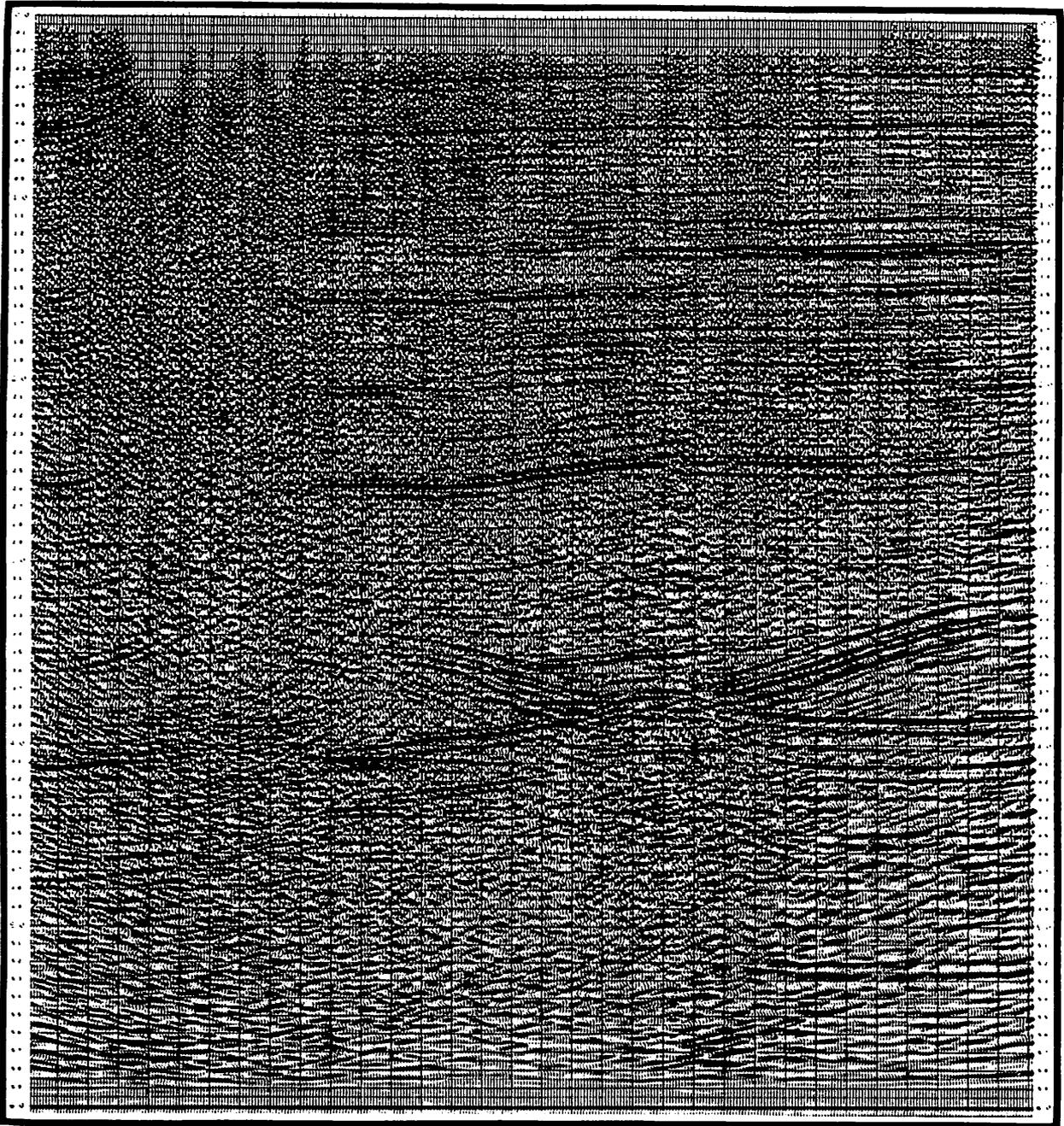


D'LO DOME

INTERPRETED SEISMIC LINE

COURTESY OF CLAYTON W. WILLIAMS, JR.

FIGURE 44

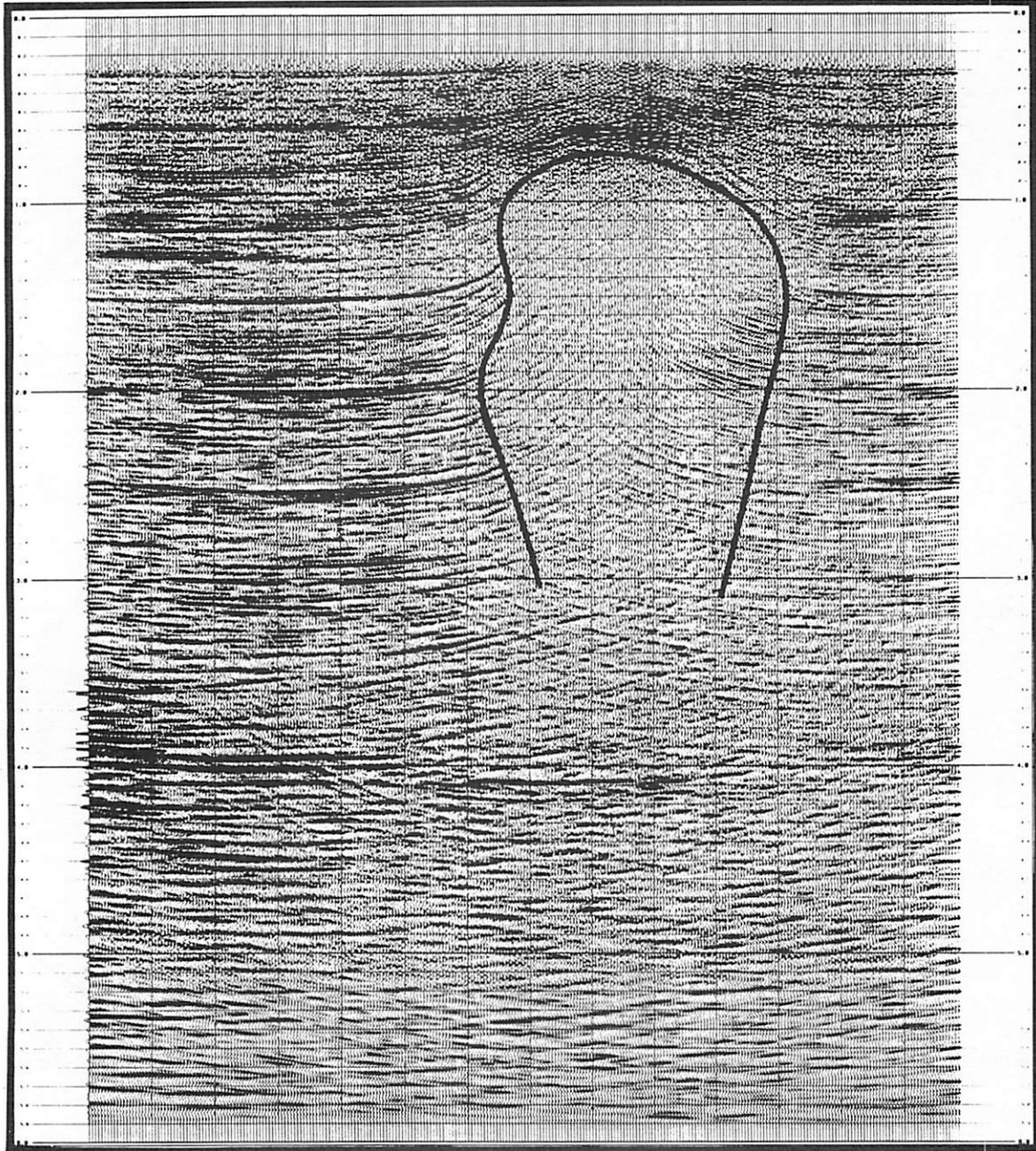


COURTESY OF CLAYTON W. WILLIAMS, JR.

SEISMIC LINE

D'LO DOME

FIGURE 45

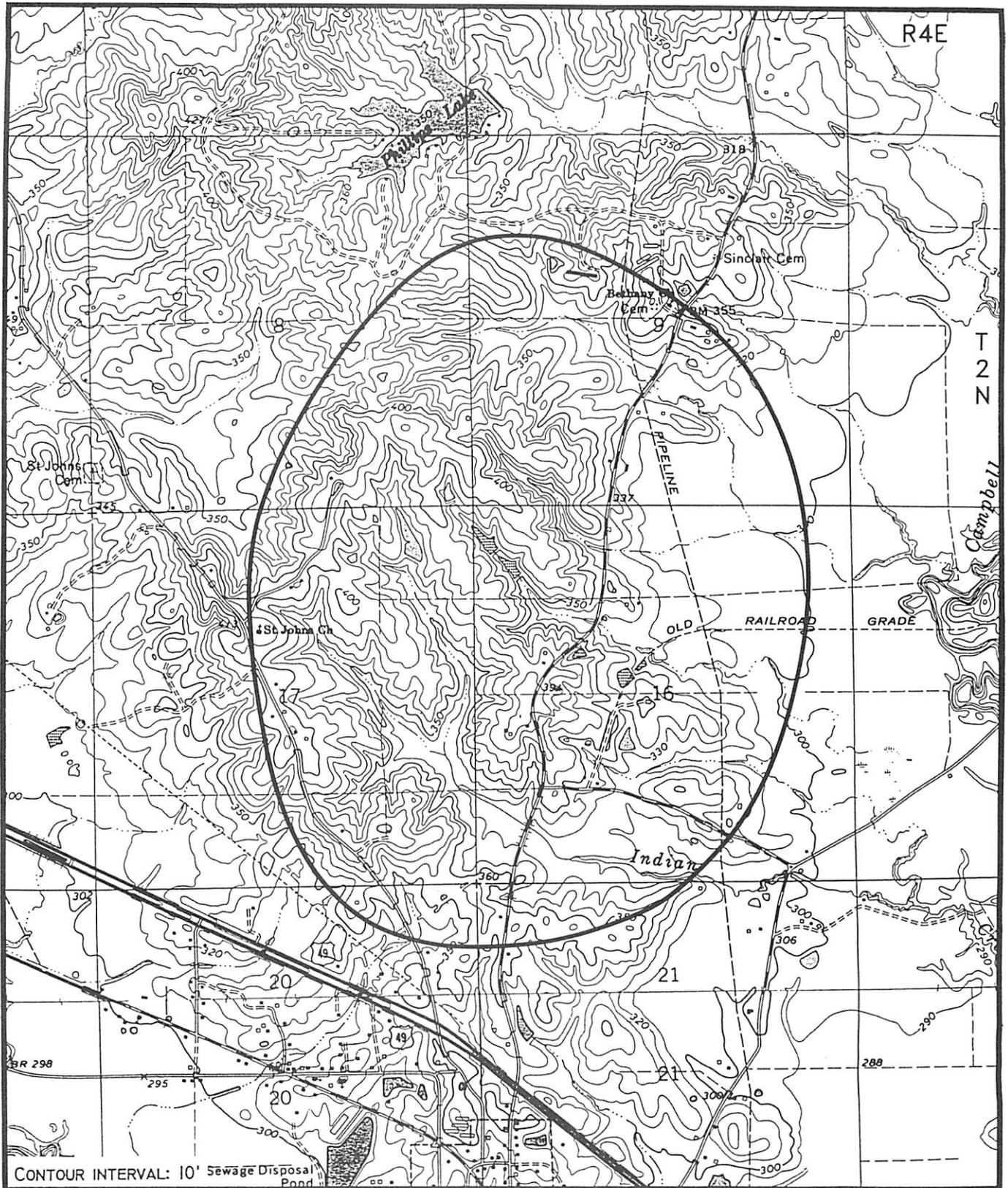


COURTESY OF CLAYTON W. WILLIAMS, JR.

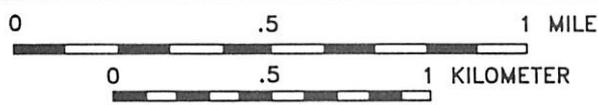
SEISMIC LINE WITH SALT OUTLINE

D'LO DOME

FIGURE 46



CONTOUR INTERVAL: 10' Sewage Disposal Pond



D'LO DOME

FIGURE 47

DONT SALT DOME

GENERAL DATA

Location: Sections 6,7-T8N-R14W, and Sections 1,12-T8N-R15W, Covington County, Mississippi

USGS topographic map(s): Hot Coffee

Geophysical data: There is a small cap rock maximum, but little gravity minimum expression.

Estimated size and shape: Roughly circular, 1.2 miles in diameter

Estimated base fresh water (10,000 ppm): -2,600'

Economic use: Oil and gas production on southeast flank at Leaf River Field.

Shallowest known cap rock: 2,034' (Sun Oil Company No. 1(D-1) W. W. Speed)

Shallowest known salt: Not reached on crest, 9,694' on flank (Oryx Energy Company No. 1 Fairchild-Windham Exploration Company)

Oldest formation penetrated within one mile of dome: Upper Jurassic Cotton Valley Formation (Sun Exploration & Production Company No. 1 W. W. Speed)

Nearest oil or gas production: Leaf River Field, on the southeast flank of this dome, produces from the Lower Cretaceous Washita-Fredericksburg, Rodessa and Sligo formations.

DRILLING HISTORY

Discovery well: Sun Oil Company No.1 (D-1) W. W. Speed

API well number: 23-031-00044

Location: 50' S and E of center of NW/4 of Section 7-T8N-R14W

Elevation: 318' GL (topographic map), 314' (?) (scout ticket)

Total depth: 2,093'

Reported formation tops: (Mellen)

cap rock 2,034'

Geophysical logs: "Ran Schl from 2,051'" (scout ticket)

Comments:

Completed: D&A 10/1940

Additional drilling:

Well: Sun Oil Company No. 1(D-3) J. J. (James) Speed

API well number: 23-031-00043

Location: 660' FSL and 50' FEL of SE/4 of SW/4 of Section 6-T8N-R14W

Elevation: 324' GL (topographic map), 325' (?) (scout ticket)

Total depth: 2,452'

Reported formation tops: (Mellen)

cap rock 2,294'

anhydrite 2,380'

Geophysical logs: "Ran "Jeep" from 2,318'" (scout ticket). A "Jeep" log is an early Halliburton electrical log.

Comments: "Also carried as Sun #1-A A. L. Magee" (Mellen). Core test

Completed: D&A 2/1941

Well: Sun Oil Company No. 1(D-2) Speed

API well number:

Location: 720' FSL and 203' FWL of Section 6-T8N-R14W (map no. 3)

Elevation: 322' GL (topographic map), 305' (?-Mellen)

Total depth: 2,061'

Reported formation tops: (Mellen)

cap rock 2,265'

anhydrite 2,377'

Geophysical logs:

Comments: This well was reported by Mellen, who refers to a sample log. It does not show on commercial base maps, nor is there a scout ticket for it. The Mississippi State Oil and Gas Board has no file for this well.

Completed: D&A ?

Well: Oryx Energy Company No. 1 S. R. Speed

API well number: 23-031-20088

Location: 1,525' FSL and 500' FWL of Section 8-T8N-R14W

Elevation: 368' GL, 399' KB

Total depth: 14,452'

Reported formation tops:

Upper Tuscaloosa 7,404'

Lower Tuscaloosa 8,675'

Washita-Fredericksburg 9,295'

Paluxy 10,930'

Mooringsport 12,568'

base Ferry Lake 13,165'

Rodessa 13,300'

Sligo 13,932'

Hosston 14,241'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 6,800'-14,459', Compensated Neutron-Litho Density 6,800'-14,463', ML, RFT, ST, SHDT

Comments: Completed for 154 BOPD, 1,350 MCFGPD, 4 BWPD, 8/64" choke, GOR 8766:1, FTP 4,450#, from Rodessa perforations 13,309'-517' (overall). Specific perforations are not reported in the Mississippi State Oil and Gas Board well file.

Completed: 7/1989

Well: Oryx Energy Company No. 1 S. R. Speed 'A'

API well number: 23-031-20109

Location: 300' FWL and 1,432' FSL of Section 8-T8N-R14W

Elevation: 363' GL, 381' DF, 382' KB

Total depth: 10,500'

Reported formation tops: (scout ticket)

Selma 5,725'

marine (Tuscaloosa) 8,470'

Lower Tuscaloosa 8,665'

Lower Cretaceous 9,175'

Washita-Fredericksburg 9,846'

Geophysical logs: Halliburton Dual Induction Long Spaced Sonic 3,150'-10,472', Microlog 8,724'-10,431', Spectral Density Dual Spaced Neutron 8,724'-10,431'

Comments: Completed for 151 BOPD, 353 MCF/DPD, 10 BWPD, 14/64" choke, 655# TP, 35# CP, 38.8° gravity, 2338:1 GOR, from perforations 9,891'-962', 9,983'-93', and 10,210'-61'.

Completed: 4/1991

Well: Oryx Energy Company No. 1 M. F. Vaughn

API well number: 23-031-20107

Location: 793' FWL and 2,343' FNL of Section 8-T8N-R14W

Elevation: 374' GL, 399' DF, 400' KB

Total depth: 10,862'

Reported formation tops: (scout ticket)

Selma 5,656'

Eutaw 6,826'

Tuscaloosa 7,342'

Washita-Fredericksburg 9,307'

Geophysical logs: Halliburton Dual Induction Long Spaced Sonic 6,295'-10,802', Microlog 8,750'-10,800', Spectral Density Dual Spaced Neutron 8,750'-10,800'

Comments: Cored 9,918'-50', recovered 26'. Drillstem test 9,856'-60', no significant amount of oil or gas was recovered, reservoir pressure 4,117#. Perforations 10,112'-33', 10,636'-62', 10,691'-703', 10,429'-61', and 10,710'-27' were tested with no results released. Perforations 9,937'-73' were acidized, and, on a 14 hour test, recovered 200 BW, 0.5 BO, SITP 100#. The operator originally indicated plans to sidetrack and re-test, but has not done so.

Completed: T&A 2/1990

Well: Zach Brooks Drilling Company et al. No. 1 V. S. Welch

API well number: 23-031-00001

Location: 330' N and 330' E of SW corner of NE/4 of SW/4 of Section 17-T8N-R14W, or center of SW/4 of NE/4 of SW/4 of Section 17

Elevation: 288' GL, 303' DF, 305' KB

Total depth: 14,715'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Wilcox 2,702'

Midway 5,348'

Selma chalk 5,969'

Eutaw shale 7,314'

first Eutaw sand 7,388'

Tuscaloosa? 7,784'

marine Tuscaloosa 8,622'

Lower Tuscaloosa 8,803'

massive (sand) Tuscaloosa 9,000'

Lower Cretaceous 9,321'

Paluxy? 11,369'

Mooringsport 12,975'

Ferry Lake anhydrite 13,275'

base anhydrite 13,430'

Rodessa 13,430'

Sligo/three fingers lime? 14,035'

Hosston? 14,427'

Geophysical logs: Schlumberger Induction-Electrical Log 2,201'-14,710', MicroLogging 7,300'-14,708'; Lane Wells

Radioactivity Log 12,000'-12,770'

Comments: Circulated 8,712'-22' and 8,770'-80', circulated sand with asphaltic show and 32 units gas; 13,540'-62', circulated sand with slight show oil. Mud log oil show 12,676'-702', sand with asphaltic stain, good fluorescence and cut.

Drillstem test through perforations 12,671'-77', gas to surface in 11 hours 20 minutes, recovered 4,000' water cushion, 600' oil (18.7° gravity), and 460' mud cut salt water; 2 failed tests; 12,671'-82', gas to surface in 6.5 hours, recovered 4,000' water cushion, 3,000' oil, 5,100' salt water; 12,678'-712' misrun; reperforated 12,671'-77' after acidizing (also reported as 13,496'-768') (different scout tickets have slightly different details), gas to surface in 16 hours 48 minutes, recovered 4,500' water cushion, 6,625' salt water.

Took 17 sidewall cores 12,651'-763', all no show except recovered sand with slight fluorescence 12,651', spotted fluorescence 12,653', and brown oil stain, gold fluorescence, bright yellow cut 12,674', 12,675', 12,677', 12,678', 12,679', 12,681', 12,683', and 12,685'; 25 sidewall cores 13,665'-14,369', all no show except 13,666', 13,870', 14,263', and 14,369' recovered sand with fluorescence.

Cored 13,547'-62', recovered 1' lime, 3" sand, asphaltic, spotted yellow fluorescence, 9' limestone with no show, 7' sand, asphaltic, spotted yellow fluorescence; 13,563'-623', recovered 21' shaly siltstone with slight oil odor, 7' sand with no show; 13,625'-38', recovered 3' shale; 13,645'-88', recovered 3' sand with slight gas odor, dull fluorescence, 1' shale, 7' sand with fluorescence, 19' sand with no show; 13,688'-738', recovered 10.5' shale, 7' sandy lime with no show, 1' shale, 3' siltstone with no show, 12' shale, 7' sand with no show, 1' shale, 3' sand with fair odor and slight fluorescence, 1' siltstone with pinpoint fluorescence, 3.5' sand with no show; 13,738'-68', recovered 2.5' sand with no show, 1.5' lime with no show, 1.5' shale, 6" sand with scattered fluorescence; 13,777'-806', recovered 1' siltstone, 9.5' sand, 6" siltstone, 4.5' shale, all no show; 13,806'-42', recovered 25' shale, 6" sand, 2.5' siltstone, 5' sand, 3' shale, all no show.

Tested perforations 12,671'-77', acidized with 500 gallons, swabbed 54 barrels oil and packer failed. Reperforated 12,671'-82', swabbed 43 barrels salt water with trace oil in 12 hours.

Completed: D&A 8/1957

Well: Oryx Energy Company No. 1 Fairchild-Windham Exploration Company

API well number: 23-031-20103

Location: 903' FWL and 236' FNL of Section 18-T8N-R14W

Elevation: 341' GL, 372' DF, 373' KB

Total depth: 14,955'

Reported formation tops: (scout ticket)

Wilcox 2,703'

Midway 4,530'

Selma	5,484'
Eutaw	6,410'
Upper Tuscaloosa	6,783'
marine Tuscaloosa	7,660'
Lower Tuscaloosa	7,910'
Lower Cretaceous	8,370'
salt	9,694'
Paluxy	11,383'
Mooringsport	13,020'
Ferry Lake	13,510'
Rodessa	13,612'
Pine Island	13,910'
Sligo	14,132'
Hosston	14,415'

Geophysical logs: Schlumberger Dual Induction-SFL 118'-14,916', Long Spaced Sonic 6,276'-14,931', Lithodensity/Comp. Neutron 11,371'-14,872', MSFL (microlog) 6,276'-14,872'

Comments: Drillstem tests 12,976'-13,058' and 13,790'-970', no results released.

Completed: D&A 4/1990

Well: Sinclair Oil and Gas Company No. 1 W. W. Speed et al.

API well number: 23-031-00037

Location: 654' S and 412' E of NW/corner of SE/4 of NE/4 of Section 18-T8N-R14W

Elevation: 273' GL (log heading), 272' GL (scout ticket), 291' DF, 295' KB (log heading)

Total depth: 14,522'

Reported formation tops: (scout ticket)

Wilcox	2,606'
chalk	5,886'
base chalk	7,170'
Stanley (sand-Eutaw)	7,296'
Christmas (sand-Eutaw)	7,575'
marine shale	8,610'
Lower Tuscaloosa	8,807'
massive (sand)	9,168'
Lower Cretaceous	9,332'
Mooringsport	12,620'
Ferry Lake	13,092'
Rodessa	13,350'
Sligo	13,940'
Hosston	14,230'

Geophysical logs: Schlumberger Induction-Electrical Log 2,551'-14,510', Sonic Log 7,100'-12,133', Directional Log 200'-14,511'

Comments: Cored 12,411'-61', recovered 2' sand with good odor and cut, 40' shale, 5' sand with no show, 2' siltstone; 12,471'-76', recovered 2' sand, no show; 13,329'-58', recovered 29' shale and sand, no show; 13,358'-418', recovered 2.5' shale, 2' sand with no show, 2' shale, 4' sand with good odor and fluorescence appearing asphaltic, 11' sand with no show, 26.5' sand with oil odor, gold fluorescence, bleeding oil, 11' sand, shale, and shaly sand with no show; 13,418'-73', recovered .5' shale, 2.5' sand with no show, 9.5' shale, 11.5' sand with no show, 2' lignite, .5' shale, 5.5' sand with no show, 2.5' shale, 2.5' sand with no

show, 15' sand with occasional streaks of porosity having good odor, bright gold fluorescence, and yellow stain in bottom part; 13,474'-533', recovered 2.5' sand with good odor and gold fluorescence, 9.5' sand and shale with no show, 2' conglomerate, 11' shale, 6' sand with no show, 6.5' shale, 5.5' sand with no show, 7.5' shale, 8' sand with no show; 13,533'-92', recovered 2' shale, 10' sand with no show, 6' shale, 11' sand with no show, 7' shale, 6' sand with no show, 7' shale, 6' sand with no show, 36.6' shale; 13,593'-653', recovered 9' sand, 3' conglomerate, 7' shale, 8' sand, 6.5' shale, 6.5' sand, .5' shale, 4' sand, 10' shale, 4' sand, all no show; 14,035'-97', recovered 7.5' shale, 14' sand with no show, 32.5' sand with slight show oil, 9' shale; 14,123'-85', recovered 12' shale, 2' sand with no show, 9' shale, 3' conglomerate, 3' shale, 18' sand with good odor, (light brown oil stain ?), and solid gold fluorescence, 5.5' conglomerate, 9.5' shale; 14,185'-246', recovered 6.5' sand, 27' shale, 6.5' sand, 1.5' shale, 2' sand, 1.5' shale, 1' lignite, 3.5' sand, .5' shale, 8' sand, 3' sand and shale, all no show; 14,246'-308', recovered 12' shale, 29' sand, 1.5' shale, 2.5' sand, 0.5' shale, 10' sand, 7' shale, all no show.

Drillstem test from perforations 14,150'-70', strong blow, 1,500' water cushion to surface in 5 hours 10 minutes, oil to surface 5 hours 30 minutes, flowed by heads, 10#-100# TP, flowed small amount gas, flowed 4.5 BO in 15 minutes and died, 32.6° gravity. Swabbed 6 BO and 3 BM(mud), 3 BO, 2 BM and 12 BSW, reversed out 33 BSW, attempted to acidize, could not break down; 11,860'-70', 552' water cushion to surface in 48 minutes, gas to surface in 1 hour 20 minutes, 1,175# TP, flowed at rate of 390 MCFGPD, 20 BCPD, and 240 BSWPD for 1 hour, 12/64" choke, 1,800# TP, 52.8° gravity flowed at rate of 480 MCFGPD, 26.4 BCPD, 238 BSWPD (172,550 PPM) for 2 hours, 14/64" choke, 1,650# TP, 54.3° gravity; 11,860'-65', 550' water cushion to surface in 4 hours, gas to surface in 40 minutes, 110# TP, salt water to surface in 7 hours, TP 30#, flowed at rate of 124 MCFGPD and 8 BLW(load water) PD for 6 hours, 3/8" choke, 105# TP; set packer at 11,823', perforations 11,860'-65'?, flowed at rate of 444 MCFGPD, 20 BC, 228 BSW (117,000 PPM), 14/64" choke, TP 1,400#-1,450#, 22,200:1 GOR, 50.8° gravity, flowed at rate of 604 MCFGPD, 22.9 BCPD, 435 BSWPD, for 7 hours, 1/4" choke, 1,475# TP; 14,150'-70' tool plugged; set packer at 14,122', perforations 14,150'-70'?, gas to surface in 50 minutes, reversed out 552' water cushion, 300' gas cut mud, 12,970' salt water (192,225 PPM), and 1 BO.

Completed: D&A 6/1961

Well: Sun Exploration & Production Company No. 1 W. W. Speed

API well number: 23-031-20083

Location: 500' FNL and 700' FEL of Section 18-T8N-R14W

Elevation: 290' GL, 309' DF, 310' KB

Total depth: 17,425'

Reported formation tops: (scout ticket)

Lower Tuscaloosa	8,690'
Paluxy	11,120'

base Ferry Lake 13,184'
 Sligo 13,880'
 Hosston 14,140'
 Cotton Valley 17,290'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 6,245'-17,315', LDT/CNL, RFT, SHDT, ML, WF/DIG, ST, Frac Analysis

Comments: Discovery well for Leaf River Field. Completed from Rodessa and Sligo. Rodessa perforations 13,410'-20', completed for 158 BCPD, 3,300 MCFGPD, 16/64" choke, 2,132# FTP. Sligo perforations 14,029'-46', completed for 330 BOPD, 410 MCFGPD, 20/64" choke, 306# FTP.

Completed: 11/1987

Well: Coral Petroleum Development Inc. No. 1 Gara R. Rogers

API well number: 23-031-20069

Location: 1,680' FSL and 2,050' FWL of Section 1-T8N-R15W

Elevation: 312' GL, 336' DF, 338' KB

Total depth: 15,442'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

chalk 6,080'
 Eutaw 7,564'
 Lower Tuscaloosa 9,186'
 Paluxy 11,992'
 Mooringsport 13,459'
 Ferry Lake 14,167'
 base Ferry Lake 14,342'
 Sligo 14,954'

Geophysical logs: Schlumberger Dual Induction/SFL 3,214'-14,344', BHC, HDT

Comments: Original hole was drilled to 11,180' before drill pipe stuck. Operator plugged back and drilled to total depth in a side track hole. The well reportedly drilled into salt.

Completed: D&A 9/1981

Well: Sun Oil Company No. D-1 A. L. Magee

API well number: 23-031-00042

Location: 50' S and 50' W of NE/corner of SE/4 of SE/4 of Section 12-T8N-R15W

Elevation: 282' GL (topographic map), 283'? (scout ticket)

Total depth: 2,361'

Reported formation tops:

Geophysical logs: "Ran Jeep to 2,268'." (scout ticket) A "Jeep" log is an early Halliburton electrical log.

Comments: Core test

Completed: D&A 1/1941

Well: Sun Exploration & Production Company No. 1 Lois R. Speed

API well number: 23-031-20086

Location: 1,100' FNL and 2,550' FEL of Section 12-T8N-R15W

Elevation: 290' GL, 320' DF, 321' KB

Total depth: 14,386'

Reported formation tops:

Geophysical logs: Schlumberger Laterolog/Caliper/Gamma Ray 1,015'-6,212'

Comments: Perforations 13,800'-928', swabbed salt water with slight show oil. Perforations 11,794'-894', 10,647'-72', and 10,270'-94' tested salt water.

Completed: D&A 7/1988

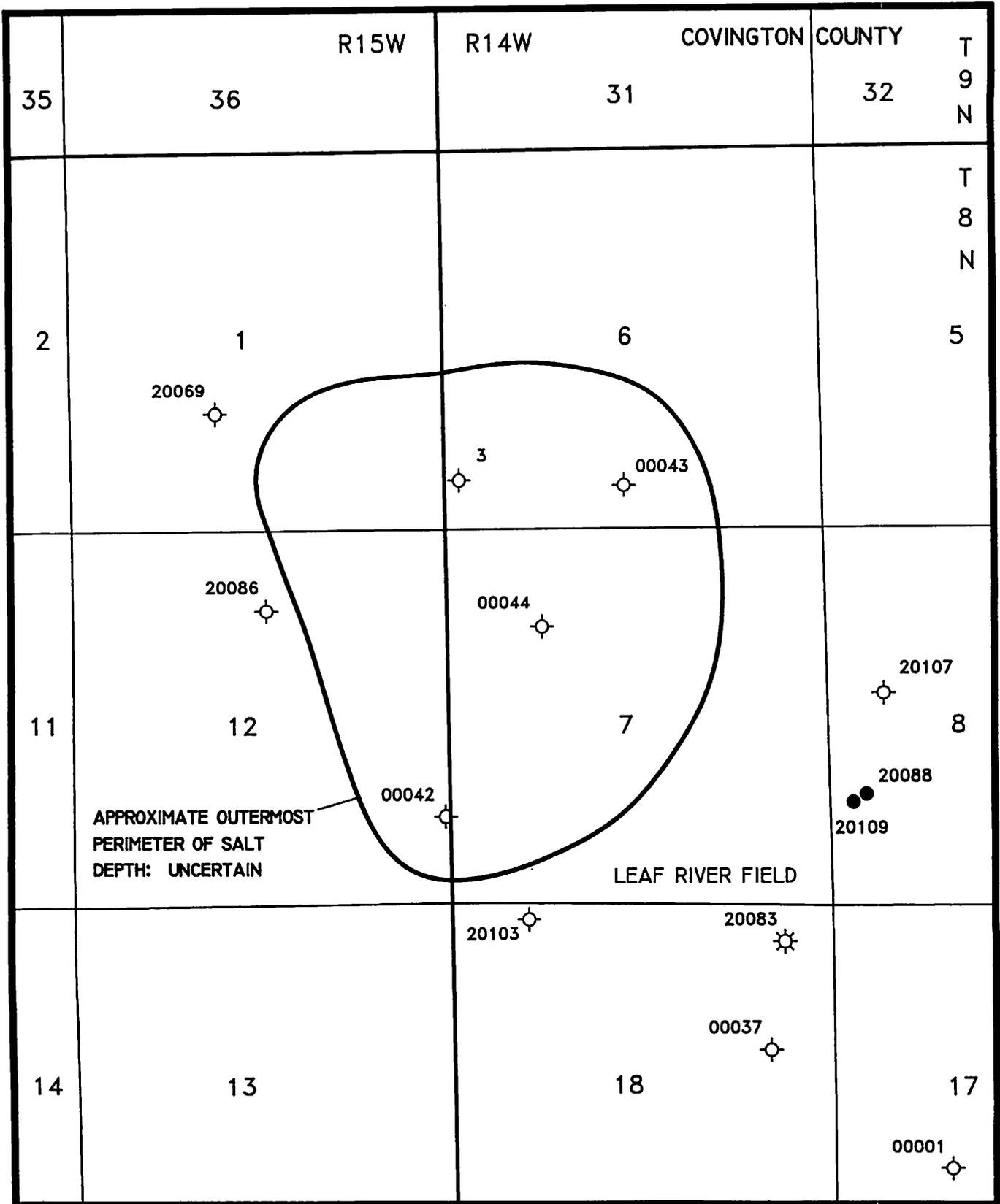
PRODUCTION

Cumulative Production to 01/01/1995

	Oil (barrels)	Gas (MCF)
Leaf River Field		
Washita-Fredericksburg	18,483	42,962
Rodessa	256,893	5,843,600
Sligo	142,411	865,179

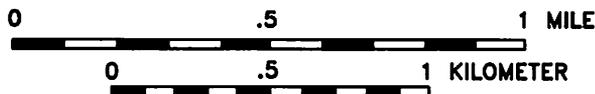
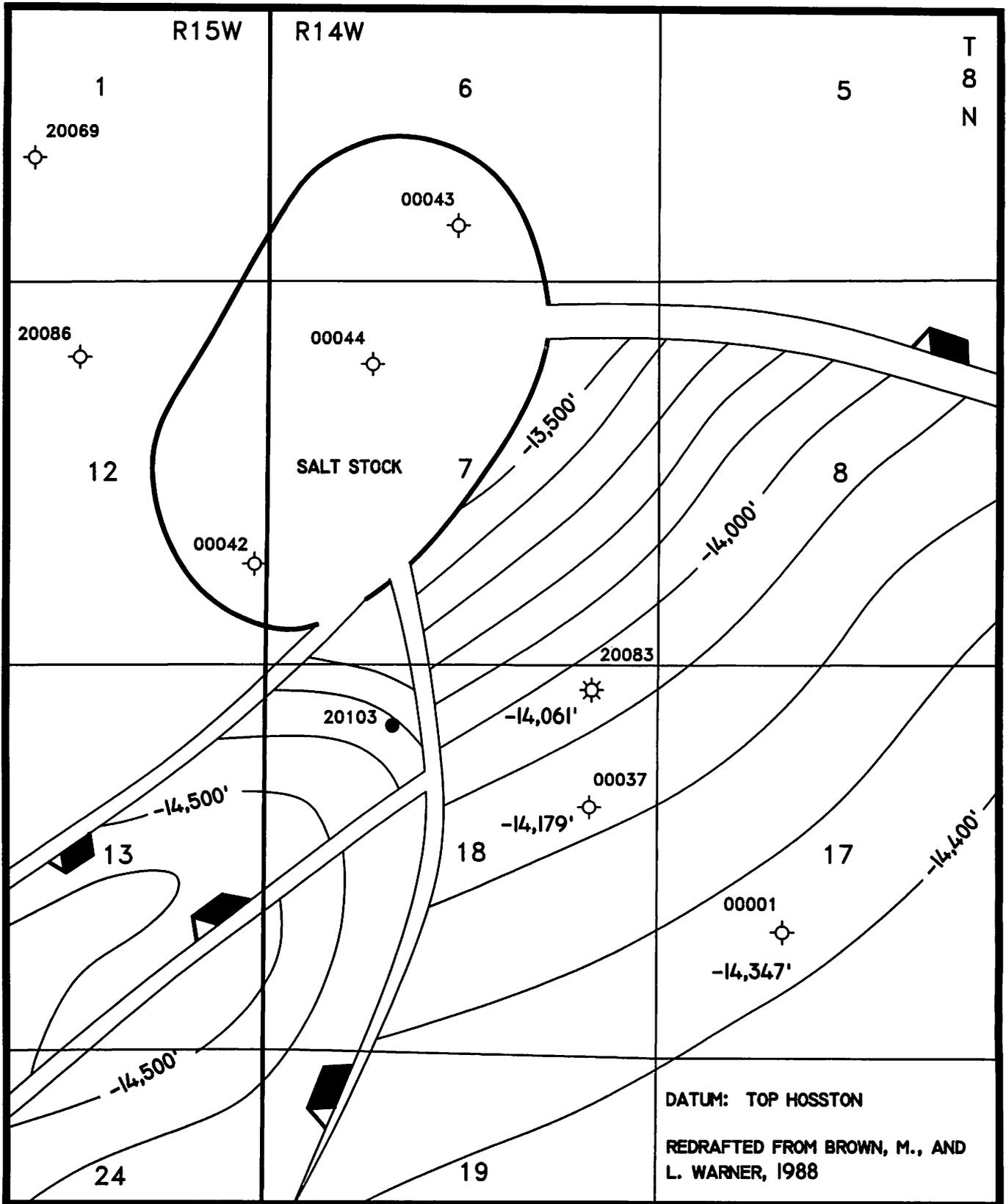
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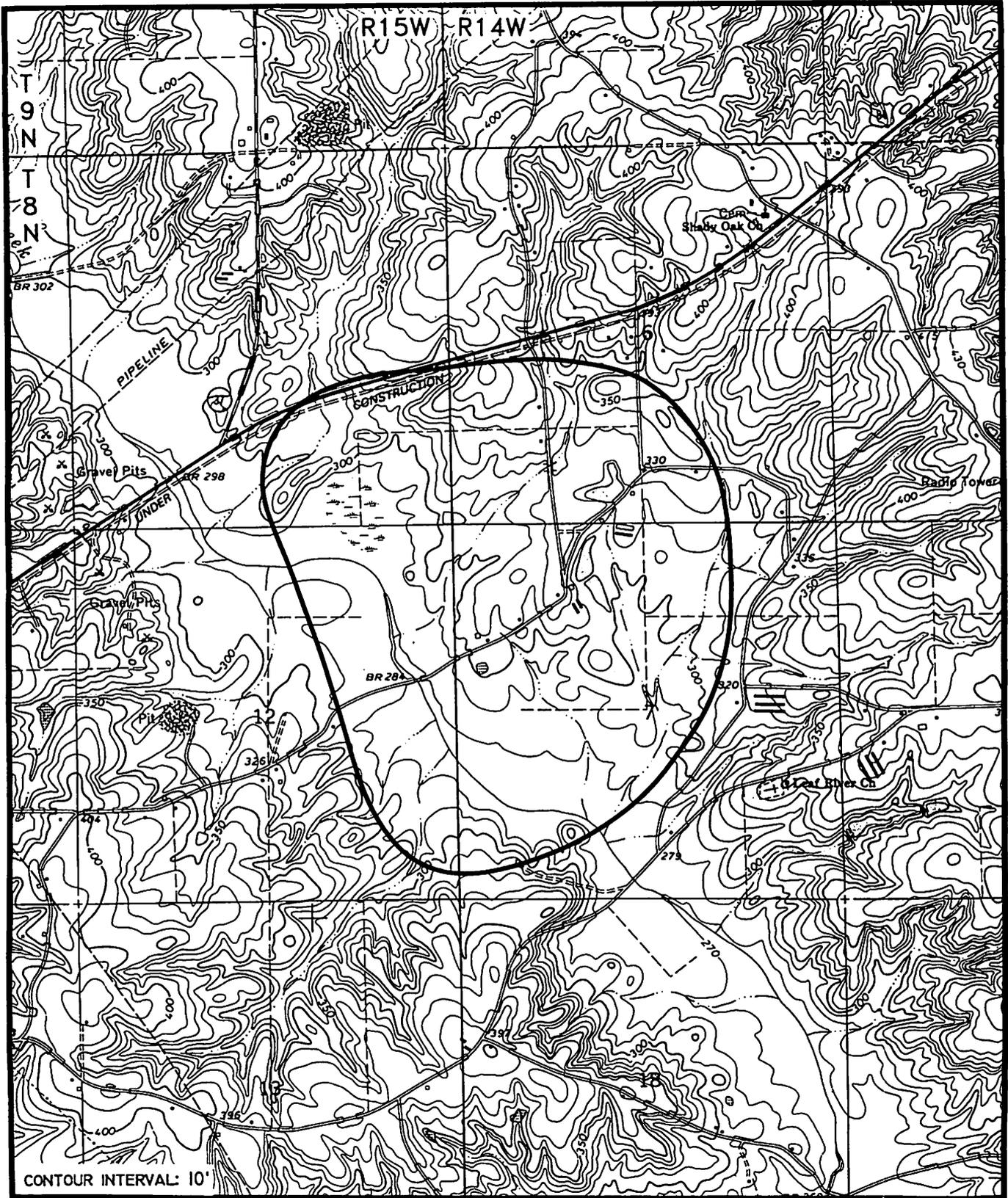


DONT DOME

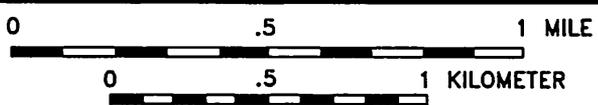
FIGURE 48



LEAF RIVER FIELD
FIGURE 49



CONTOUR INTERVAL: 10'



DONT DOME

FIGURE 50

DRY CREEK SALT DOME**GENERAL DATA**

Location: Sections 16,20,21,22,27,28,29-T8N-R17W, Covington County, Mississippi
USGS topographic map(s): Lake Mike Connor, Lone Star
Geophysical data: Moderate gravity minimum
Estimated size and shape: Approximately circular, 1.3 miles in diameter
Estimated base fresh water (10,000 ppm): -3,000'
Economic use: Lower Cretaceous Hosston Formation production (Dry Creek Dome Field) on the south flank
Shallowest known cap rock: 1,986' (Sippiala Corporation No. 1 W. M. Kelly)
Shallowest known salt: Not reached
Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Callon Petroleum Company No. A-1 Booth Unit)
Nearest oil or gas production: Dry Creek Dome Field, on the south flank of the dome, produces from the Lower Cretaceous Hosston Formation. Gum Branch Field, one mile south, produced from the Lower Cretaceous Sligo Formation.

DRILLING HISTORY

Discovery well: Sippiala Corporation No. 1 Bertha McRaney
API well number: 23-031-00041
Location: 100' S and 55' W of NE/corner of NW/4 of SW/4 of Section 21-T8N-R17W
Elevation: 412' GL
Total depth: 2,476'
Reported formation tops: (scout ticket)
 cap rock 2,458'(?)
Geophysical logs: "No log or samples." (Mellen)
Comments: Sulphur test
Completed: D&A 9/1946

Additional drilling:

Well: Sippiala Corporation No. 1 W. M. Kelly
API well number: 23-031-00038
Location: 100' N and 115' W of SE/corner of SW/4 of NE/4 of Section 21-T8N-R17W
Elevation: 455' GL
Total depth: 2,110'
Reported formation tops: (scout ticket)
 cap rock 1,986'
Geophysical logs:
Comments: Drilled 124' of cap rock, limestone and calcite with some pyrite. Sulphur test
Completed: D&A 9/1946

Well: Sippiala Corporation No. 1 Ethel Magee
API well number: 23-031-00039
Location: 600' N and 60' W or SE/corner of Section 21-T8N-

R17W

Elevation: 443' GL
Total depth: 2,409'
Reported formation tops: (scout ticket)
 cap rock 2,393'
Geophysical logs:
Comments: Sulphur test
Completed: D&A 10/1946

Well: Sippiala Corporation No. 1 Leroy Magee
API well number: 23-031-00040
Location: 545' E and 500' S of NW/corner of NE/4 of NE/4 of Section 21-T8N-R17W
Elevation: 452' GL (topographic map), 443'(?)
Total depth: 2,253'
Reported formation tops: (scout ticket)
 cap rock 2,195'
Geophysical logs:
Comments: Drilled 58' of cap rock, described as limestone and calcite with pyrite. Sulphur test
Completed: D&A 10/1946

Well: Sippiala Corporation No. 1 Magee
API well number:
Location: 550' N and 180' E(?) of SW/corner of Section 21-T8N-R17W (map no. 5)
Elevation: 385' GL (topographic map), 400'(?)
Total depth: 2,376'
Reported formation tops:
Geophysical logs:
Comments: This well is reported only by Mellen. No files exist on it at the Mississippi State Oil and Gas Board, nor does it appear on commercial base maps.
Completed: D&A 9/1946

Well: Amerada Hess Corporation No. 2 Minerals Management, Inc.
API well number: 23-031-20160
Location: 2,349' S and 690' E of NW/corner of Section 27-T8N-R17W
Elevation:
Total depth: permitted 16,400'
Reported formation tops:
Geophysical logs:
Comments: Drilling at 14,500' on 11/21/1994. Proposed bottom hole location is 1,644' S and 410' E of NW/corner of Section 27.
Completed:

Well: Amerada Hess Corporation No. 1 Minerals Management, Inc. 28-1
API well number: 23-031-20157
Location: 1,200' SNL and 250' WEL of Section 28-T8N-R17W

Elevation: 435' GL, 460' DF, 461' KB

Total depth: 15,055'

Reported formation tops:

Geophysical logs: Schlumberger Phasor-Induction/SFL BHC Sonic-GR 6,369'-14,851', Directional Survey

Comments: Dry Creek Dome Field discovery well. Completed from Hosston perforations 14,234'-90', 14,381'-419', and 14,516'-30' for 3,313 MCFGPD, 209 BCPD, 14 BWPD, 14/64" choke, 3,330# FTP, 1,250# CP, 50.5° gravity, GOR 15,852:1. Proposed bottom hole location was 500' SNL and 250' WEL, under a possible salt overhang. At 14,700' measured depth, 14,661' true vertical depth, the hole was 35' N and 142' E of the surface location.

Completed: 1/1994

Well: Amerada Hess Corporation No. 1 Willie Von McRaney, Sr.

API well number: 23-031-20161

Location: 370' S and 580' E of NW/corner of Section 28-T8N-R17W

Elevation:

Total depth: permitted 16,400'

Reported formation tops:

Geophysical logs:

Comments: New location 7/1994. Drilling not begun by 11/1994. Proposed bottom hole location is 220' S and 2,215' E of NW/corner of Section 28.

Completed:

Well: Callon Petroleum Company No. 1 McRaney et al. GU (Gas Unit)

API well number: 23-031-20074

Location: 2,630' FSL and 1,640' FEL of Section 28-T8N-R17W

Elevation: 407' GL, 429' DF, 431' KB,

Total depth: 15,209'

Reported formation tops:

Geophysical logs: Dresser Atlas Dual Induction Focused Log BHC Acoustilog 2,753'-15,187', Densilog Neutron Gamma Ray 8,350'-15,161'

Comments: Attempted 118 sidewall cores, recovered 86 from 1,550'-3,832' (depths as reported on scout ticket), all no show.

Completed: D&A 10/1982

Well: Callon Petroleum Company No. A-1 Booth (Unit)

API well number: 23-031-20073

Location: 1,500' FSL and 40' FEL of Section 28-T8N-R17W

Elevation: 416' GL (log heading), 418' GL (Mississippi State Oil and Gas Board well file), 436' DF, 437' KB

Total depth: 15,414'

Reported formation tops: (scout ticket)

chalk 6,738'

Lower Tuscaloosa 9,605'

base Ferry Lake 13,580'

Harper (sand-Hosston) 14,945'

Geophysical logs: Schlumberger Dual Induction-SFL

Borehole Compensated Sonic Log 2,620'-15,402', Compensated Neutron-Formation Density 13,325'-15,400', Saraband 13,350'-15,390', Casing Collar Log and Perforating Record, Cement Bond Log 13,198'-15,198'

Comments: Discovery well for Gum Branch Field. Tested perforations 15,036'-46' in the Hosston which were non-commercial (flared very weak flare, acidized with no substantial improvement). Completed in Sligo perforations 14,598'-608' for 3,100 MCFGPD, 25 BCPD, 12 BWPD, 20/64" choke, TP 1,300#, GOR 124,000:1.

Completed: 3/1982

Well: Strata Energy, Inc. (Wil-Ken Inc.) No. 1 Booth Unit 28-9
API well number: 23-031-20063

Location: 1,500' FSL and 1,140' FEL of Section 28-T8N-R17W

Elevation: 436' GL

Total depth: 15,730'

Reported formation tops: (scout ticket)

Selma chalk 6,802'

base Ferry Lake 13,705'

Hosston 14,598'

Geophysical logs: Dresser Atlas Dual Induction Focused Log BHC Acoustilog 3,288'-15,706', Densilog Neutron 9,000'-15,706', 4-arm Diplog 12,700'-15,712'

Comments: scout ticket reports WLT's (wireline tests), but reports no intervals or details.

Completed: D&A 11/1980

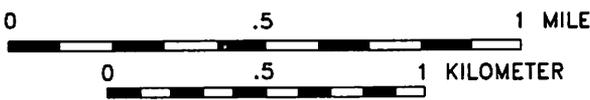
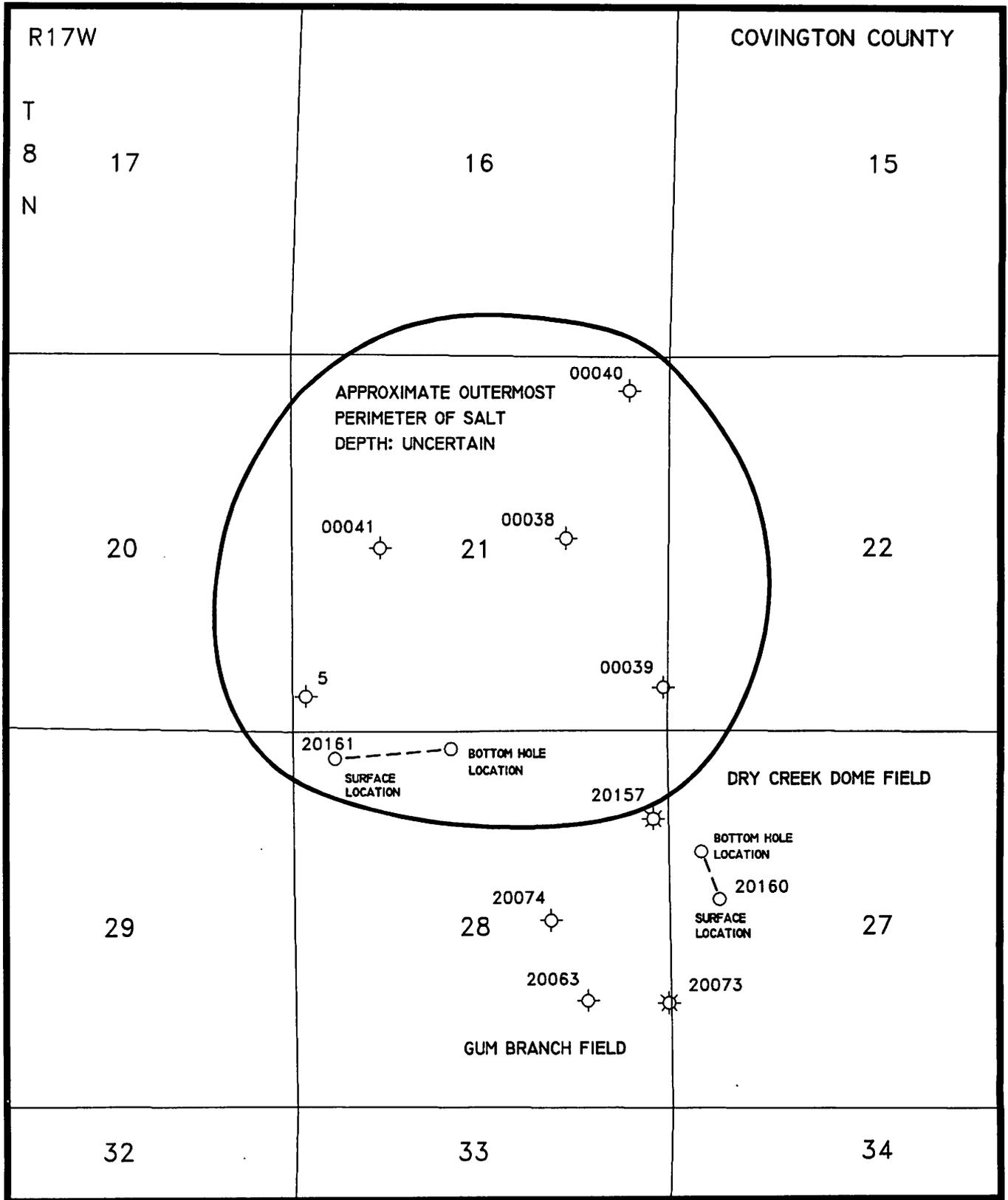
PRODUCTION

Cumulative Production to 01/01/1995

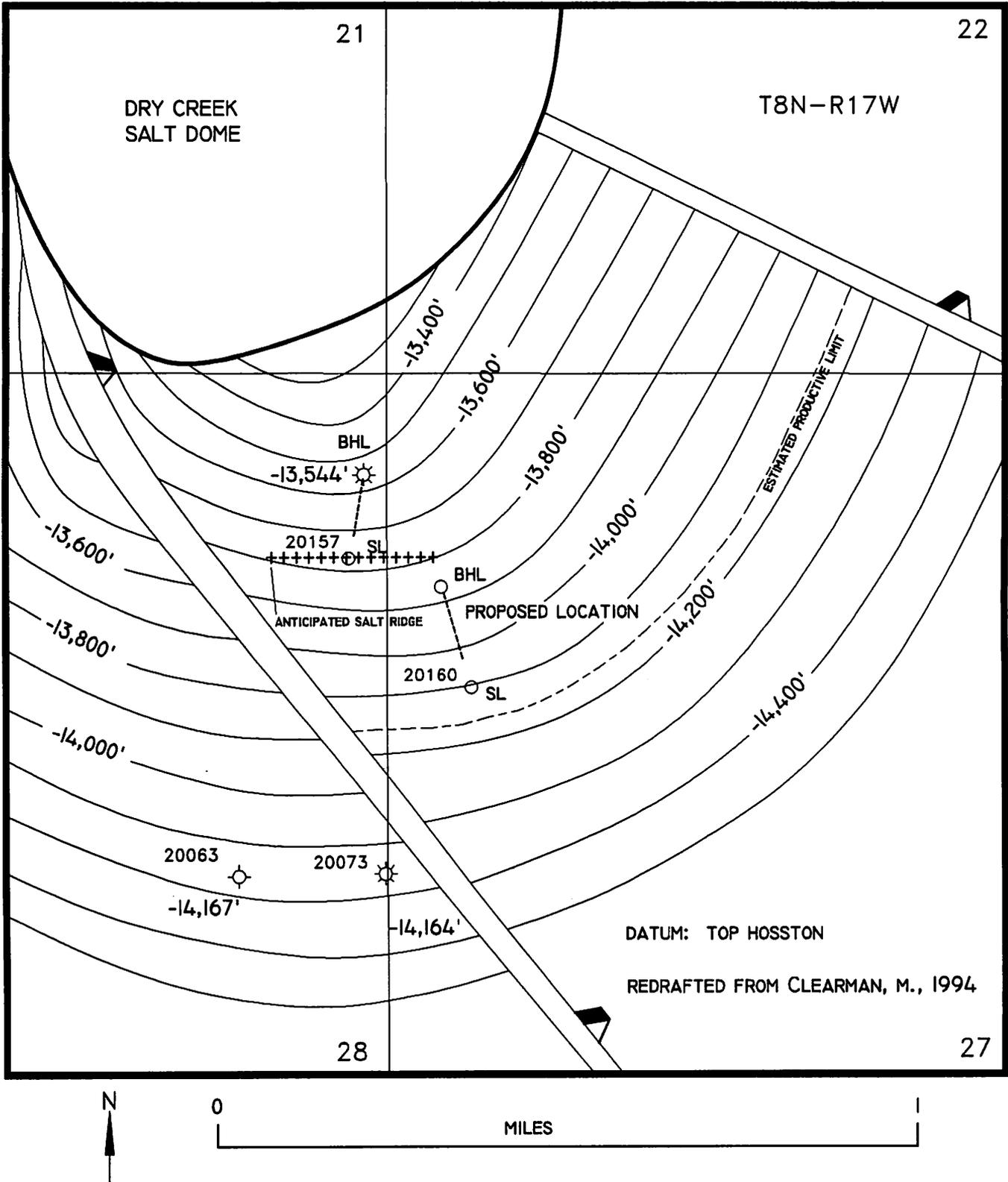
	Oil (barrels)	Gas (MCF)
Gum Branch Field (off production 1992)		
Sligo	6,368	476,692
Dry Creek Dome Field		
Hosston	9,275	90,431

SELECTED REFERENCES

- Clearman, M., 1994, Amerada Hess Corporation, Dry Creek Field structure map, in Mississippi State Oil and Gas Board, Docket No. 146-94-787, unnumbered pages with map.
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- Mississippi State Oil & Gas Board, 1994, Production Annual Report, 327 p.
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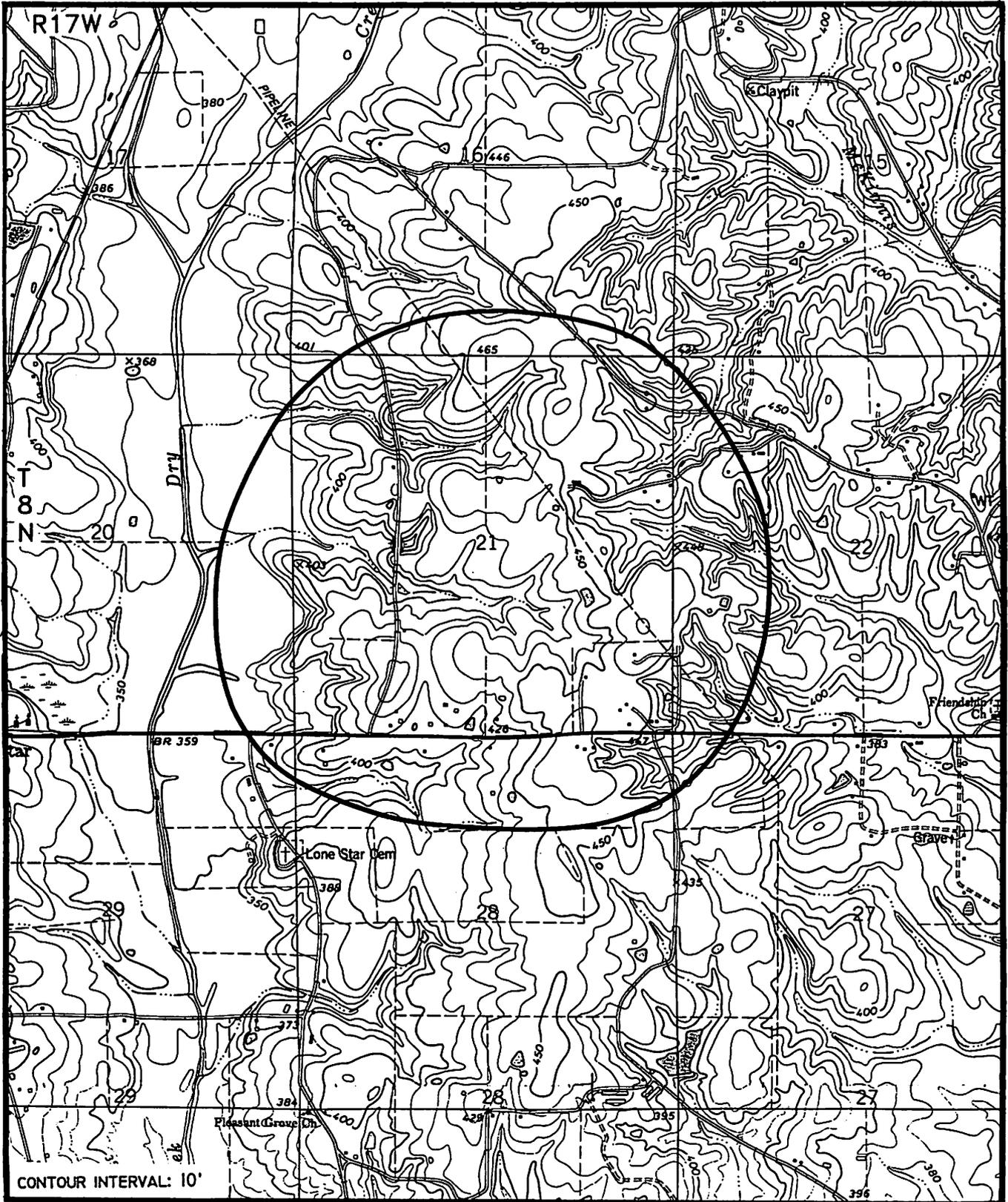


DRY CREEK DOME
FIGURE 51



DRY CREEK DOME FIELD

FIGURE 52



DRY CREEK DOME
FIGURE 53

EAGLE BEND SALT DOME

GENERAL DATA

Location: Sections 8,9,16,17-T18N-R2E, Warren County, Mississippi

USGS topographic map(s): Eagle Bend

Geophysical data: A weak gravity minimum is present over the dome.

Estimated size and shape: Approximately circular, 1 mile in diameter

Estimated base fresh water (10,000 ppm): -2,700'

Economic use: None to date

Shallowest known cap rock: 4,241' (Amerada Petroleum Corporation No. 1 State of Mississippi)

Shallowest known salt: 4,505' (Amerada Petroleum Corporation No. 1 Dabney and Bonelli)

Oldest formation penetrated within one mile of dome: Probable Lower Cretaceous/Jurassic (Kerr McGee Corporation No. 1 Anderson-Tully Corporation)

Nearest oil or gas production: Vicksburg Field, 10 miles southeast, produced from the Lower Cretaceous Rodessa Formation.

DRILLING HISTORY

Discovery well: Amerada Petroleum Corporation No. 1 Dabney and Bonelli

API well number: 23-149-00004

Location: 661' FWL and 560' FSL of SW/4 of SW/4 Section 9-T18N-R2E

Elevation: 109' DF

Total depth: 5,207'

Reported formation tops: (scout ticket)

Zilpha	2,180'-2,210' (sample)
Winona	2,330'-60' (sample)
Tallahatta	2,519'-40' (sample)
Wilcox	2,615'
Midway	3,700'
reworked igneous	3,834'
Tuscaloosa	4,100'
Lower Cretaceous	4,198'-4,272'
gypsum or anhydrite	4,272'-4,300'
igneous	4,300'-4,355'
gypsum or anhydrite	4,355'-4,410'
igneous	4,410'-4,505'
salt	4,505'

Geophysical logs: Schlumberger electrical log 1,510'-4,520'

Comments: Cored 3,937'-47', recovered 2' "reworked igneous material"; 4,121'-31', recovered 8' sand; 4,131'-41', recovered 1.5' sand; 4,278'-84', recovered 3' gypsum; 4,508'-18', recovered 3' salt.

Took sidewall cores with no show at 2,693', 3,096', 3,131', 3,299', 3,302', 3,315', 3,345', 3,388', 3,412', 3,486', 3,489' (lignite), 3,498', 3,525', 3,604', 3,609', 3,619', 3,628', and 3,672'. Took sidewall cores at 3,617', recovered 2" "fine grain ashy sli porous lignitic, sli calcareous, irregular stains brown oil sli gas odor, no fluorescence, good brown ether cut"; 3,615', recovered 2" "fine grain ashy lignitic, sli porous, more uniform brown oil stain, spotted fluorescence, good ether cut"; 3,612', recovered 1" "fine grain ashy sli porous, lignitic sand, irregular stain brown oil, gas odor, very sli ether cut"; 3,313', recovered 1" "fine grain shaley sand, fairly porous sli irregular oil stain (looks dead), no fluorescence, no cut"; 3,311', recovered 1.5" sand as 3,313'.

Drillstem test through perforations 3,612'-17', recovered 3,412' salt water with no show; 3,600'-06', recovered 122' salt water and 671' muddy salt water with no show. All data from the scout ticket.

Completed: D&A 6/1947

Additional drilling:

Well: Eagle Lake Oil & Gas No. 1 Kiger

API well number: 23-149-00019

Location: 500' FSL and 2,200' FEL of Section 9-T18N-R2E

Elevation: 92' GL (topographic map),

Total depth: 2,607'

Reported formation tops: (scout ticket)

Yegua 440'(?)

Geophysical logs:

Comments:

Completed: D&A 7/1931

Well: Kerr McGee Corporation No. 1 Anderson-Tully Corporation

API well number: 23-149-20062

Location: 805' S and 1,214' E of NW/corner of Section 10-T18N-R2E, proposed bottom hole location 1,917' S and 67' E of NW/corner of Section 10

Elevation: 96' GL (topographic map)

Total depth: 17,493'

Reported formation tops:

Geophysical logs:

Comments: True vertical depth at total depth is 17,271'.

Completed: D&A 12/1994

Well: Amerada Petroleum Corporation No. 1 State of Mississippi

API well number: 23-149-00003

Location: 660' S and 663' E of NW/corner of NE/4 of Section 16-T18N-R2E

Elevation: 109' DF

Total depth: 4,425'

Reported formation tops: (scout ticket)

Sparta	1,211'
Cane River	2,104'
Winona	2,301'
Wilcox	3,025'
Midway	3,350'
volcanic	3,650'-3,716'
gas rock	3,716'-4,216'
anhydrite	4,241' (core)

Geophysical logs: Schlumberger electrical log 812'-4,240'

Comments: Cored 3,025'-35', recovered 3' shale with sandstone streaks, no show; 3,152'-62', recovered 8' shaly, micaceous, glauconitic sandstone, no show; 3,344'-50', recovered 2' calcareous, shaly sandstone, no show; 3,491'-501', recovered 9' black shale; 3,627'-37', recovered 3.5' medium-coarse sand, slight odor and good taste, slightly salty at base; 3,655'-65', recovered 10' reworked volcanic material with spots of dead oil; 3,722'-32', recovered 3' gray, limey, fossiliferous sandstone with few spots dark brown oil in calcite streaks; 3,732'-42', recovered 5' gray, fossiliferous, sandy, oolitic limestone and 1' calcareous sandstone, no show; 3,782'-92', recovered 1' calcareous, fossiliferous sandstone, 10" sandy, fossiliferous limestone (coquina), no show; 3,860'-70', recovered 2' gray and white fossiliferous sandy limestone, no show; 3,879'-83', recovered 5' shaly, very calcareous, crossbedded sandstone, 1' of which had dark brown oil stain, good ether cut; 3,883'-92', recovered 6' sand with irregular oil stain in top 6"; 3,972'-82', recovered 3.5' sand, 1.5' limestone; 4,026'-36', recovered 1.5' limestone; 4,215'-25', recovered 8' igneous material; 4,241'-51', recovered 6" black, calcareous material with anhydrite, 7' gray and white anhydrite; 4,312'-22', recovered 1.5' anhydrite; 4,322'-32', recovered 8' dark gray anhydrite.

Took sidewall cores with no show at 3,188', 3,224', 3,263', 3,325', 3,721', 3,766' (chalk), 3,851', 3,872', 3,796'.

Took sidewall core at 3,624', recovered 2.5" fine grain, slightly porous sandstone, faint ether cut and brownish gold fluorescence; 3,628', recovered 1.5" fine grain, very porous sandstone with oil odor, light brown ether cut and brownish gold, irregular fluorescence; 3,633', recovered 1.5" fine grain, very porous sandstone with light tan oil stain with light brownish yellow ether cut and brownish gold fluorescence; 3,636', recovered 3" light tan, very porous sandstone, possible light oil stain with light brownish yellow ether cut and brownish gold fluorescence.

Drillstem test 3,616'-37', recovered 315' mud with very slight gas odor, 3,226' salt water; 3,718'-883', recovered 960' mud and 2,338' muddy salt water.

Completed: D&A 8/1947

Well: Sun Oil Company No. 1 State of Mississippi

API well number: 23-149-00058

Location: 343' FEL and 2,449' FNL of Section 16-T18N-R2E

Elevation: 97' GL, 103' DF (scout ticket), 106' DF (log heading)

Total depth: 5,012'

Reported formation tops: (scout ticket)

Sparta	1,208'
Zilpha	2,060'
Wilcox	2,475'
Midway	4,000'
Clayton	4,408'
gas rock	4,419'
Eagle Ford	4,430'
Tuscaloosa	4,575'

Geophysical logs: Schlumberger electrical log 0'-5,010'

Comments: Cored 2,470'-881' (40 cores), recovered sand and sandy shale, no shows; 3,245'-50', recovered 2' gray, porous sand with oil odor and stain, 3' sandy shale with oil odor; 3,250'-418', recovered sand, shale, and lignite with no shows; 3,418'-801', recovered sand, shale, and lignite with no shows; 3,879'-912', recovered sand and shale, no shows; 3,912'-22', recovered 3' sand, 3' limestone, 4' shale, all no show; 3,922'-42', recovered sand and shale, no show; 3,942'-45', recovered sand and shale, no show; 3,945'-4,005', recovered shale and silty sand, no show; 4,023'-28', recovered 5' shale; 4,028'-37', recovered 7' shale; 4,414'-19', no recovery; 4,419'-23', recovered 1' shale, 1' broken limestone; 4,423'-26', recovered 3' limestone; 4,426'-31', recovered 2' limestone; 4,431'-36', recovered 3" shale, 3' limestone, no show; 4,436'-69', recovered shale with sand streaks, no show; 4,469'-89', recovered shale; 4,526'-36', recovered shale; 4,574'-79', recovered 1' sand, no show, 4' shale.

Drillstem test 3,229'-50', recovered 190' mud and salt water.

Completed: D&A 8/1948

Well: Sun Oil Company No. 2 State of Mississippi

API well number: 23-149-00059

Location: 1,370' FNL and 930' FEL of Section 16-T18N-R2E

Elevation: 97' GL, 105' DF

Total depth: 5,201'

Reported formation tops: (scout ticket)

Sparta	1,246'
Zilpha	2,106'
Wilcox	2,565'
Midway	3,853'
chalk	4,305'
Tuscaloosa	4,348'

Geophysical logs: Schlumberger electrical log 487'-5,201'

Comments: Cored 4,335'-455', no show; 4,529'-728', no show. Took 43 sidewall cores 2,838'-4,476' with 18 samples showing some dead oil.

Completed: D&A 9/1948

Well: Torch Operating Company No. 1 Board of Education

API well number: 23-149-20061

Location: 428' S and 2,375' E of NW/corner of Section 16-T18N-R2E

Elevation: 109' DF

Total depth: 4,030'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Zilpha	2,050'
Wilcox	3,073'
Midway	3,150'
gas rock	3,510'

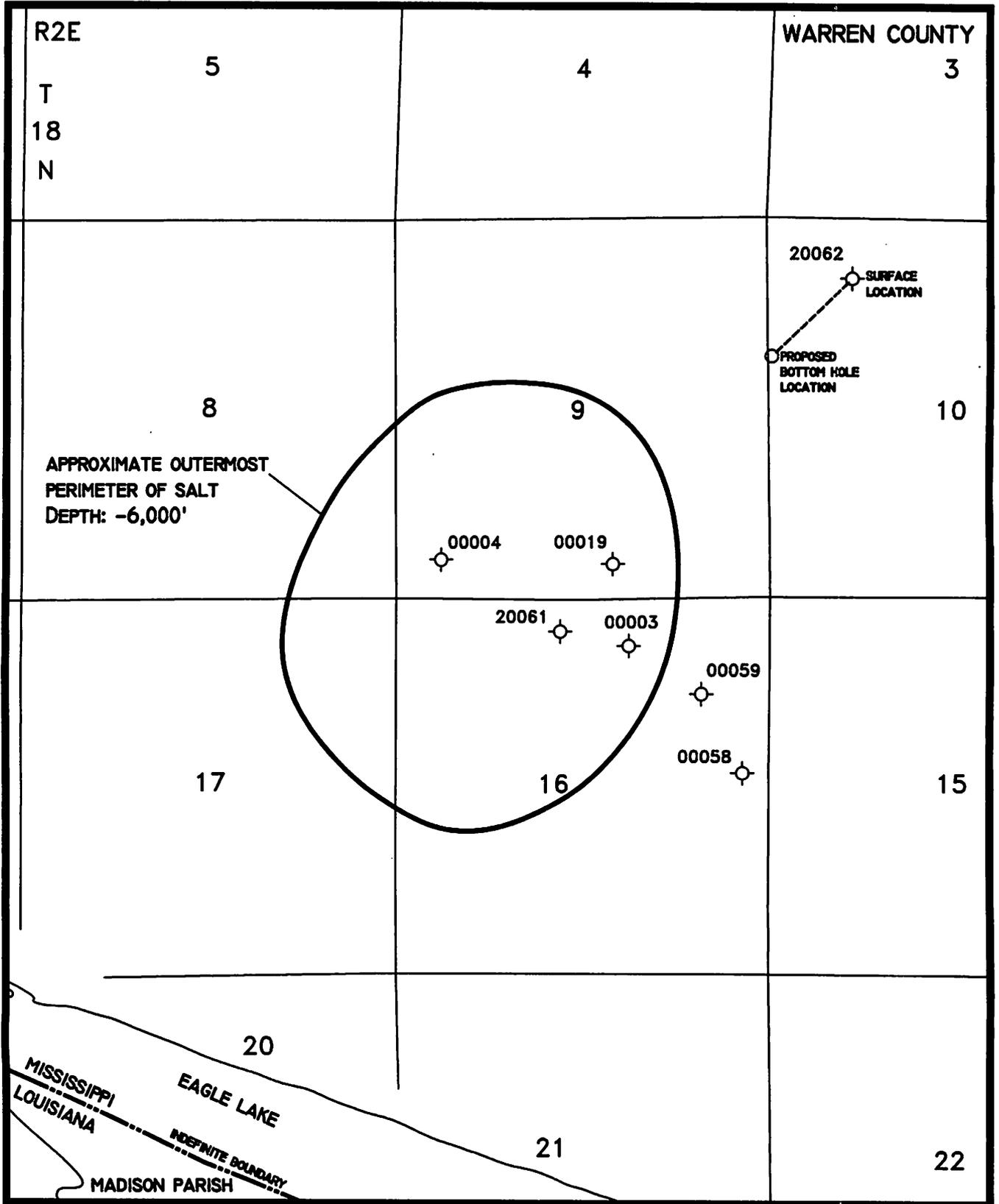
Geophysical logs:

Comments: Set 4 1/2" casing at 4,030'. Perforations 3,514'-90' tested non-commercial.

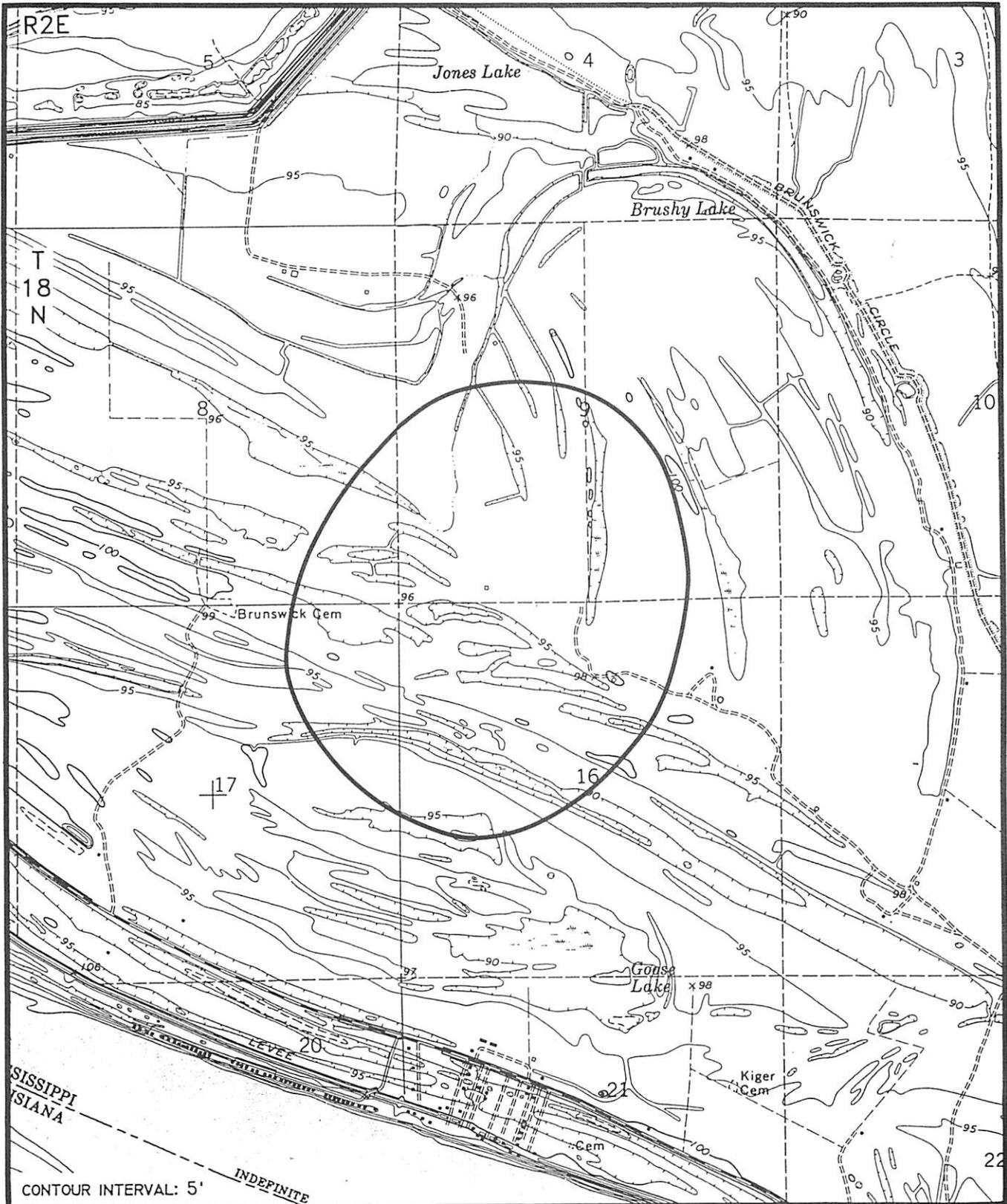
Completed: 9/1994

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EAGLE BEND DOME
FIGURE 54



EAGLE BEND DOME
FIGURE 55

EDWARDS SALT DOME

GENERAL DATA

Location: Sections 26,27,34,35-T6N-R4W, Hinds County, Mississippi

USGS topographic map(s): Edwards

Geophysical data: Minor gravity minimum with weak caprock gravity maximum

Estimated size and shape: Nearly circular, 1.2 miles in diameter

Estimated base fresh water (10,000 ppm): -3,000'

Economic use: None to date. "The Wilcox on the Edwards Dome is several hundred feet above regional. This dome was drilled and tested for LPG storage. It was reported the LPG leaked through the cap rock and the storage prospect was abandoned as unsuitable." (Mellen)

Shallowest known cap rock: 2,775' (Freeport Sulphur Company No. 1 Angelo and Williams)

Shallowest known salt: 3,026' (Freeport Sulphur Company No. 1 Angelo and Williams and Southern Natural Gas Company No. 1 Angelo-Williams)

Oldest formation penetrated within one mile of dome: Probable Upper Cretaceous Lower Tuscaloosa Formation (Southern Natural Gas Company No. 1 Progressive Realty)

Nearest oil or gas production: Edwards Field, 3 miles southwest, produces from the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Southern Natural Gas Company No. 1 Angelo-Williams

API well number: 23-049-00261

Location: 654' W and 659' S of NE/corner of NW/4 of Section 35-T6N-R4W

Elevation: 178' GL (topographic map), 182' (?) (log heading), 183' (?) (scout ticket)

Total depth: 4,351'

Reported formation tops: (scout ticket)

Vicksburg	170'
Jackson	770'
Yegua	1,275'
Minden	1,445'
Sparta	2,050'
Cane River	2,631'
Wilcox	2,770'
Midway	2,787'
cap rock	2,794'
salt	3,026'

Geophysical logs: Schlumberger Electrical Logs 410'-3,100'

Comments:

Completed: D&A 12/1937

Additional drilling:

Well: Mississippi-Minnesota Oil & Gas Company No. 1 Edwards Land Company

API well number: 23-049-00216

Location: 2,440' FNL and 2,440' FEL of Section 23-T6N-R4W

Elevation: 238' GL (topographic map), 250' (?)

Total depth: 3,100'

Reported formation tops: (scout ticket)

Claiborne	936'
Minden	1,365'
Sparta	1,594'
Cane River	2,405'

Geophysical logs:

Comments:

Completed: D&A 8/1932

Well: Freeport Sulphur Company No. 1 L. Angelo

API well number: 23-049-00099

Location: 1,200' N and 215' W of SE/corner of Section 26-T6N-R4W

Elevation: 186' GL, 193' DF

Total depth: 3,485'

Reported formation tops:

Geophysical logs:

Comments: According to the drillers log, the well bottomed in shale, with no domal material reported. Sulphur test

Completed: D&A 10/1947

Well: Freeport Sulphur Company No. 1 Angelo and Williams

API well number: 23-049-00100

Location: 1,041' N and 3,018' W of SE/corner of Section 26-T6N-R4W

Elevation: 196' GL

Total depth: 3,056'

Reported formation tops: (drillers log)

Wilcox	2,542'
cap rock	2,775'
salt	3,026'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 11/1947

Well: Southern Natural Gas Company (formerly Cleve Love) No. 1 Progressive Realty Company

API well number: 23-049-00262

Location: 345' S and 402' W of NE/corner of SE/4 of SW/4 of Section 35-T6N-R4W

Elevation: 165' (GL?) (scout ticket)

Total depth: 8,458'

Reported formation tops: (scout ticket)

Claiborne	700'
Wilcox	2,835'
Midway	5,656'
Selma	6,538'

Geophysical logs: Schlumberger Electrical Logs 346'-8,452'

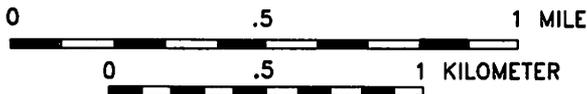
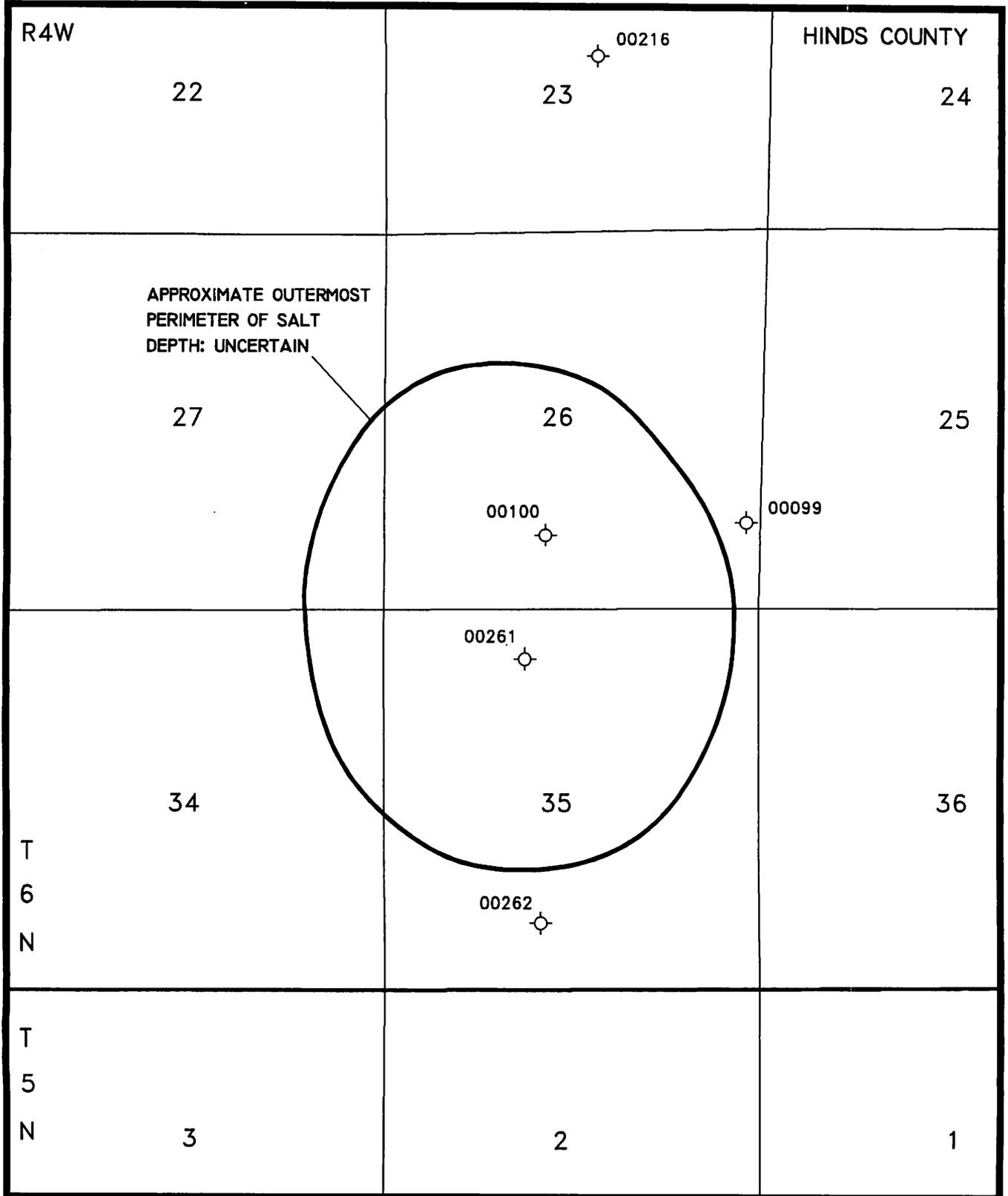
Comments: Cored 6,353'-63', recovered black shale; 8,447'-458', recovered "gr grnish sd." Cleve Love drilled to 6,504'. All his interest then converted back to the Southern

Natural Gas Company, who deepened the well to 8,458'
Completed: D&A 11/1938

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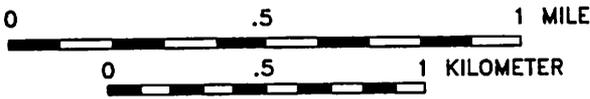
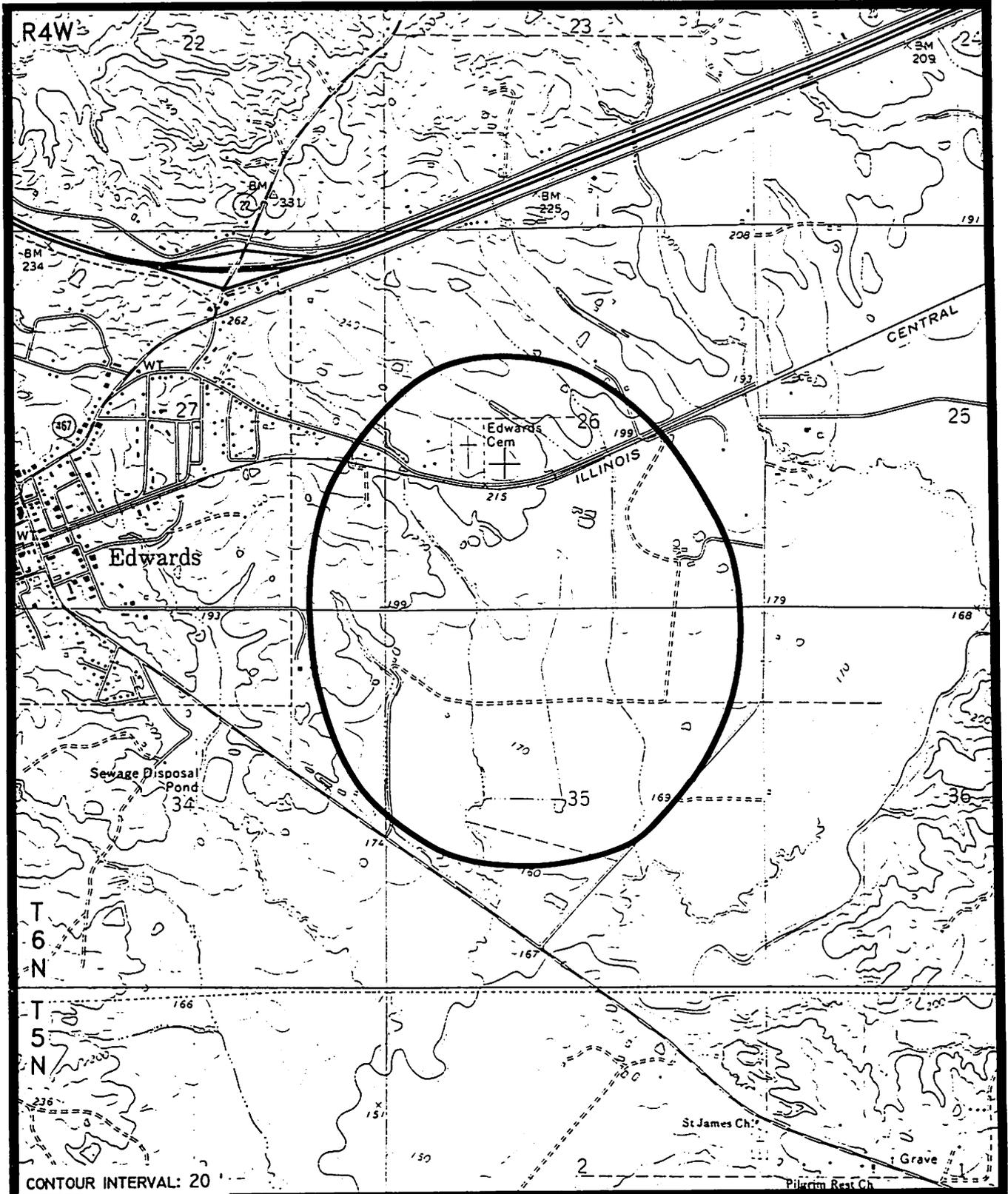
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EDWARDS DOME

FIGURE 56



EDWARDS DOME
FIGURE 57

EMINENCE SALT DOME

GENERAL DATA

Location: Sections 4,5,8,9-T7N-R14W, Covington County, Mississippi

USGS topographic map(s): Seminary

Geophysical data: There is a very weak gravity minimum, with slight gravity expression of a cap rock maximum.

Estimated size and shape: Nearly circular, one mile in diameter

Estimated base fresh water (10,000 ppm): -2,400'

Economic use: Natural gas storage. Eminence Salt Dome was the first solution-mined salt cavern in the U. S. constructed specifically for natural gas storage.

Shallowest known cap rock: 1,937' (Transcontinental Gas Pipeline Corporation No. 4 Rogers (Storage Well) and Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc.) No. 1 Rogers Observation)

Shallowest known salt: 2,442' (Humble Oil & Refining Company No. 1 Leroy Rogers, Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc) No. 4 Rogers (Storage Well), Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc.) No. 1 Rogers Observation, and Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc.) No. 2 Eminence Cavern Solution Well (Salt Solution Well)

Oldest formation penetrated within one mile of dome: Probable Upper Jurassic Cotton Valley Formation (E. P. Operating Company No. 1 D. Rushton)

Nearest oil or gas production: Collins Field, 2 miles northwest, produces from the Lower Cretaceous Paluxy, Mooringsport, Rodessa, Sligo, and Hosston formations, and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Humble Oil & Refining Company No. 1 Leroy Rogers

API well number: 23-031-00019

Location: 665' FSL and 659' FEL of Section 5-T7N-R14W (map no. 1)

Elevation: 449' GL, 461' DF

Total depth: 2,515'

Reported formation tops: (Mellen)

cap rock	1,982'
anhydrite	2,114'
salt	2,442'

Geophysical logs: Schlumberger electrical log 45'-2,125'

Comments: According to Mellen, this well was cored continuously from 1,510'-2,215'.

Completed: D&A 12/1947

Additional drilling:

Well: Transcontinental Gas Pipeline Corporation (Fenix & Scisson) No. 1 D. Knight (Salt Water Disposal Well)

API well number: 23-031-20006

Location: 2,256' FWL and 181' FNL of Section 4-T7N-R14W (map no. 2)

Elevation: 358' GL, 369' DF, 370' KB

Total depth: 5,019'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Wilcox	2,833'
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Geophysical logs: Schlumberger Dual Induction-Laterolog 1,504'-4,939', Gamma Ray Neutron 25'-1,511', Compensated Formation Density Log 1,504'-4,945'

Comments: Salt water disposal well for brine produced from salt cavern solution operations. Injection interval is Wilcox perforations 3,691'-4,423' (overall).

Completed: 5/1971

Well: Transcontinental Gas Pipeline Corporation (Transco Energy Corporation) No. 5 Natural Gas Storage (Rogers) (Transco Gas Storage Well)

API well number: 23-031-20147

Location: 935' FWL and 1,020' FSL of SW/4 of SW/4 of Section 4-T7N-R14W (map no. 3)

Elevation: 426' GL, 457' KB

Total depth: 5,350'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Citronelle	surface
Hattiesburg clay	190'
Catahoula	320'
Vicksburg Group	785'
Jackson Group	860'
Cockfield(?)	1,121'
Cook Mountain	1,460'
Sparta(?)	1,540'
Zilpha clay	1,650'
Winona(?) & Tallahatta(?)	
undifferentiated (possible	
Wilcox at bottom)	1,754'
false cap rock	2,025'
cap rock	2,123'
salt	2,444'

Geophysical logs: Halliburton Dual Induction 46'-2,453', Long Spaced Sonic 46'-2,408', Spectral Density Dual Spaced Neutron 676'-5,348', Temperature Log 0-2,521', Four Arm Caliper 69'-5,348'

Comments: Natural gas storage in solution-mined salt cavern, 4,336'-5,304'. The Mississippi State Oil and Gas Board well file also shows the well location as 935' FWL and 1,035' FSL of SW/4 of SW/4 of Section 4.

Completed: 4/1992

Well: Transcontinental Gas Pipeline Corporation No. 6 Rogers Cavern (Storage Well) (Transco Gas Storage Well)

API well number: 23-031-20132

Location: 935' FWL and 220' FSL of SW/4 of SW/4 of Section 4-T7N-R14W (map no. 4)

Elevation: 435' GL, 466' KB

Total depth: 5,360'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Citronelle	surface
Hattiesburg clay	235'
Catahoula	345'
Vicksburg Group	820'
Jackson Group	915'
Cockfield(?)	1,190'
Cook Mountain	1,315'
Sparta(?)	1,380'
Zilpha clay	1,500'
Winona(?) & Tallahatta(?) undifferentiated (possible Wilcox at bottom)	1,667'
false cap rock	2,006'
cap rock	2,021'
salt	2,446'

Geophysical logs: Halliburton Dual Induction 71'-2,415', Long Spaced Sonic 71'-5,349', Spectral Density Dual Spaced Neutron 2,350'-5,356', Spectral Density Gamma Log 660'-2,413', Four Arm Caliper 65'-5,357', Acoustic Cement Bond Log 300'-4,388'

Comments: Natural gas storage in solution-mined salt cavern from 4,253'-5,360'. Mississippi State Oil and Gas Board well file also shows location at 935' FWL and 1,035' FSL of Section 4.

Completed: 2/1992

Well: Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc.) No. 1 Eminence Cavern (Salt Solution Well)

API well number: 23-031-20002

Location: 310' FNL and 310' FWL of SE/4 of SE/4 of Section 5-T7N-R14W (map no. 5)

Elevation: 440' GL, 457' KB

Total depth: 6,691'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg	792'
Jackson	952'
Moodys Branch	1,161'
Wilcox(?)	1,821'
cap rock	1,952'
salt	2,446'

Geophysical logs:

Comments: Cored salt with traces of embedded anhydrite 757'-6,691'. This well was drilled to create a solution cavity in the salt dome for natural gas storage.

Completed: 11/1968

Well: Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc.) No. 2 Eminence Cavern Solution Well (Salt Solution Well)

API well number: 23-031-20001

Location: 310' FNL and 310' FEL of SE/4 of SE/4 of Section 5-T7N-R14W (map no. 6)

Elevation: 442' GL, 459' DF, 460' KB

Total depth: 6,671'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg	790'
Jackson	960'

Moodys Branch	1,200'
Wilcox	1,826'
cap rock	1,954'
salt	2,442'

Geophysical logs:

Comments: This well was drilled to create a solution cavity in the salt dome for storage of natural gas.

Completed: 1/1969

Well: Transcontinental Gas Pipeline Corporation (Fenix & Scisson) No. 3 Rogers (Solution)(SW)

API well number: 23-031-20004

Location: 320' FSL and 360' FWL of SE/4 of SE/4 of Section 5-T7N-R14W (map no. 7)

Elevation: 451' GL, 469' DF, 470' KB

Total depth: 7,220'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg	780'
Jackson	950'
Moodys Branch	1,210'
Wilcox	1,800'
cap rock	1,991'
salt	2,458'

Geophysical logs: Dresser Atlas Gamma Ray 610'-2,695', Schlumberger Borehole Compensated Sonic Log 2,722'-7,220', Induction-Electrical Log 54'-637'

Comments: This well was drilled to create a solution cavity in the salt dome for storage of natural gas. Location also given as 310' N and 960' W of SE/corner of Section 5.

Completed: 6/1971

Well: Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc) No. 4 Rogers (Storage Well)

API well number: 23-031-20005

Location: 260' FEL and 320' FSL of SE/4 of SE/4 of Section 5-T7N-R14W (map no. 8)

Elevation: 443' GL, 462' DF, 463' KB

Total depth: 7,225'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock	1,937'
massive anhydrite	2,112'
salt	2,442'

Geophysical logs: Schlumberger Induction 624'-2,719', Borehole Compensated Sonic 2,595'-7,220'

Comments: Drilled to create a solution-mined cavern for storage of natural gas. Cavern from 5,700'-7,200'

Completed: 8/1971

Well: Transcontinental Gas Pipeline Corporation No. 1 Stringer (Brine Disposal Well)

API well number: 23-031-20003

Location: 2,200' FWL and 600' FNL of Section 5-T7N-R14W (map no. 9)

Elevation: 443' GL, 452' DF, 453' KB

Total depth: 5,361'

Reported formation tops:

Geophysical logs: Schlumberger Dual Induction-Laterolog

1,042'-5,357', Compensated Formation Density Log
2,500'-5,359'

Comments: Well did not reach domal material. Drilled for disposal of brine produced during salt cavern solution mining and operations. Injection interval is Wilcox perforations 3,369'-5,069' (overall).

Completed: 4/1968

Well: Transcontinental Gas Pipeline Corporation (Fenix & Scisson, Inc.) No. 1 Rogers Observation

API well number: 23-031-20065

Location: 612' FEL and 290' FSL of Section 5-T7N-R14W (map no. 10)

Elevation: 445' GL, 453' DF, 454' KB

Total depth: 2,562'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock	1,937'
massive anhydrite	2,112'
salt	2,442'

Geophysical logs: Welex Micro-Seismogram Log-Cased Hole 800'-2,495', Welex Fracture Finder Micro-Seismogram Log 774'-2,517', Induction Velocity Log 774'-2,560', Compensated Density Log 774'-2,554', Radioactivity Log 800'-2,492'

Comments:

Completed: 10/1980

Well: Transcontinental Gas Pipeline Corporation No. 1 Fresh Water Supply Well

API well number:

Location: 100' FNL and 610' FWL of NE/4 of SE/4 of Section 5-T7N-R14W (map no. 11)

Elevation: 445' GL, 451' DF, 451' KB

Total depth: 613'

Reported formation tops:

Geophysical logs: Schlumberger Induction-Electrical Log 100'-612'

Comments: Fresh water supply well for solution mining operations. One of several wells used for this purpose. The Mississippi State Oil and Gas Board has no file on this well as it did not penetrate below the base of fresh water.

Completed: 3/1968

Well: Transcontinental Gas Pipeline Corporation (Transco Energy Corporation) No. 1 Bounds (S.W.D.)

API well number: 23-031-20138

Location: 334' FEL and 323' FSL of SW/4 of SW/4 of Section 9-T7N-R14W (map no. 12)

Elevation: 444' GL, 465' KB

Total depth: 5,521'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Citronelle	surface
Hattiesburg clay	250'
Catahoula	370'
Vicksburg Group	990'
Jackson Group	1,165'
Cockfield(?)	1,485'

Cook Mountain(?) 1,975'

Sparta(?) 2,043'

Zilpha clay 2,252'

Winona(?) & Tallahatta

undifferentiated 2,437'

Wilcox 3,302'

Midway 5,300'

Geophysical logs: Halliburton Dual Induction Gamma 78'-5,514', Spectral Density Dual Spaced Neutron 2,090'-5,518', Four Arm Caliper Log 78'-5,501'

Comments: Salt brine disposal into Wilcox perforations 4,262'-5,294' (overall).

Completed: 2/1992

Well: Transcontinental Gas Pipeline Corporation (Transco Energy Corporation) No. 1 Sanford (Brine disposal)

API well number: 23-031-20139

Location: NW corner of SW/4 of SE/4 of Section 9-T7N-R14W (map no. 13)

Elevation: 440' GL, 461' KB

Total depth: 5,721'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Citronelle	surface
Hattiesburg clay	190'
Catahoula	315'
Vicksburg Group	910'
Jackson Group	1,105'
Cockfield(?)	1,412'
Cook Mountain(?)	1,920'
Sparta(?)	1,985'
Zilpha	2,230'
Winona(?) & Tallahatta(?)	
undifferentiated	2,390'
Wilcox	3,254'
Midway	5,350'

Geophysical logs: Halliburton Dual Induction 72'-5,669', Long Spaced Sonic 72'-5,632', Spectral Density Dual Spaced Neutron 2,080'-5,674', Four Arm Caliper 75'-5,671', Temperature Log 0-5,420'

Comments: Salt water brine disposal into Wilcox perforations, 4,224-5,347' (overall).

Completed: 2/1992

Well: E. P. Operating Company (Oryx Energy Company) No. 1 D. Rushton

API well number: 23-031-20134

Location: 2,670' FNL and 2,000' FWL of Section 9-T7N-R14W (map no. 14)

Elevation:

Total depth: 19,127'

Reported formation tops:

Geophysical logs:

Comments: Perforations 13,090'-310' shut in as of 11/1994.

Completed:

The following information is from the Mississippi State Oil and Gas Board and is included to give an idea of storage

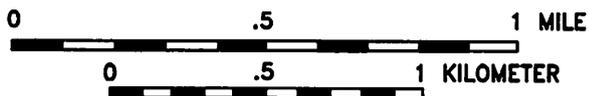
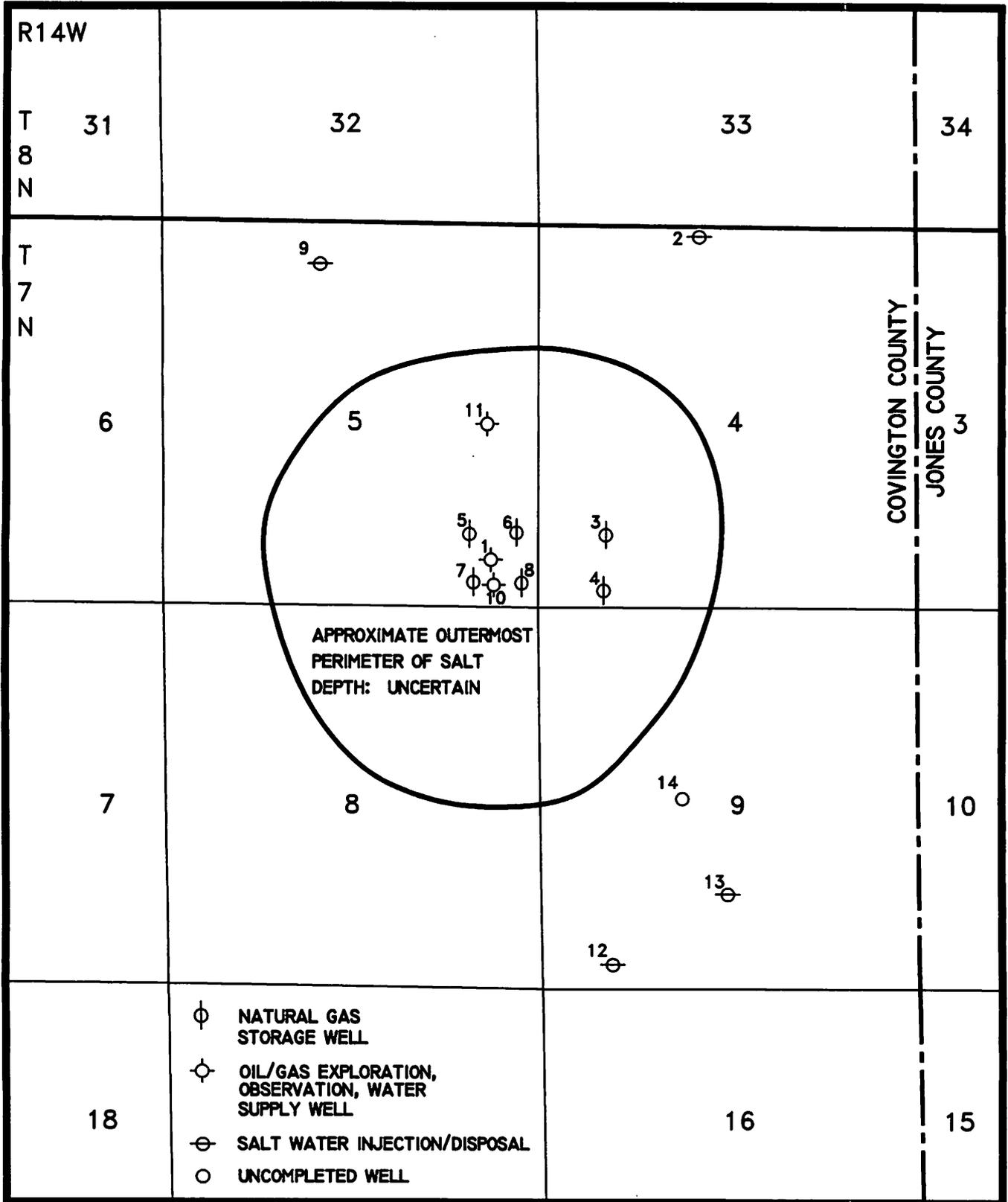
cavern size and dimensions. These dimensions were approved by 10/1978.

Total storage capacity for all caverns is 13,648,733 barrels as of 11/1994.

storage cavern	top of cavern (GL)	average cavern diameter	maximum cavern diameter
no. 1	5,468'	105'	226'
no. 2	5,501'	97'	215'
no. 3 (Rogers)	5,537'	97'	185'
no. 4 (Rogers)	5,508'	105'	197'

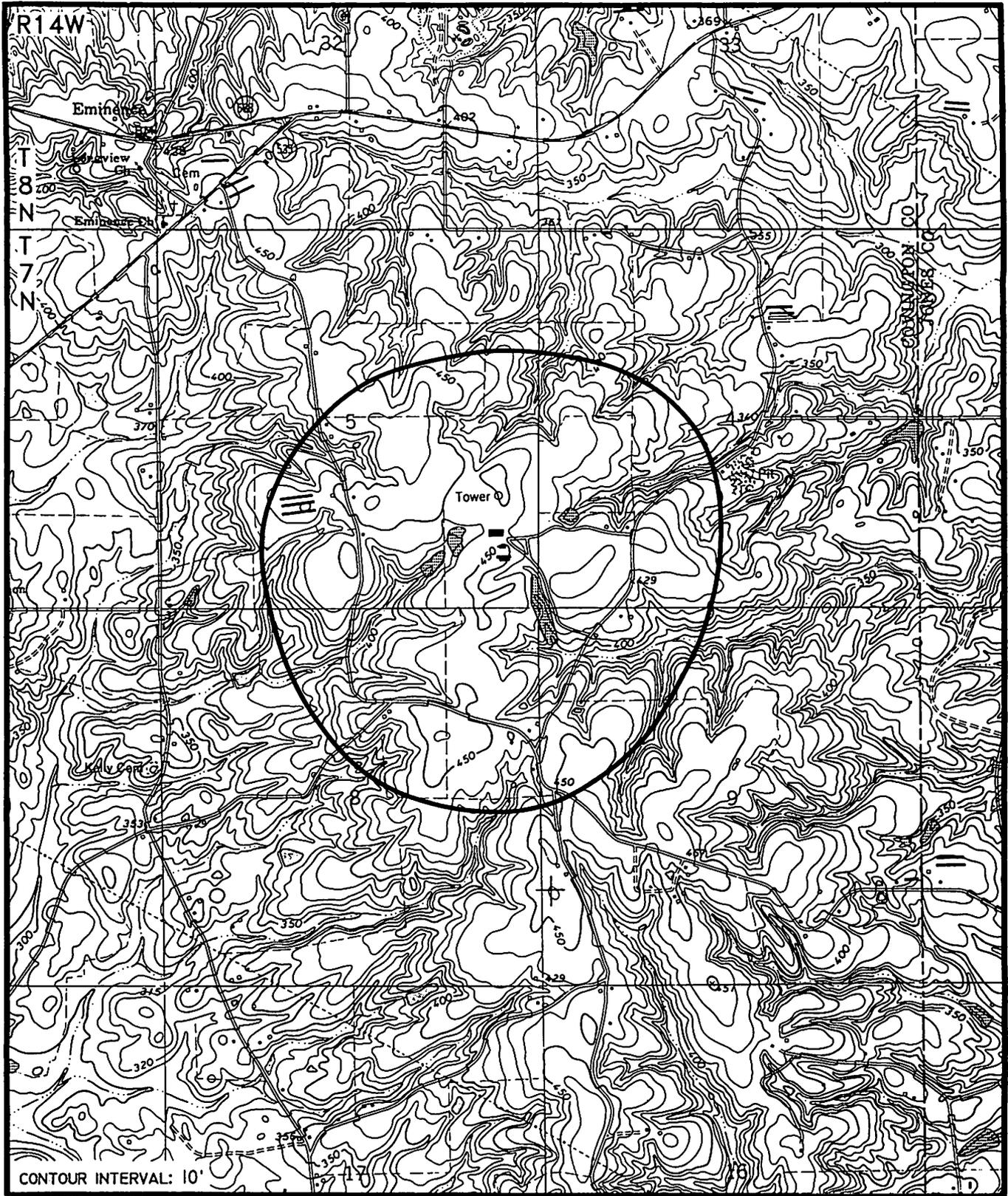
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- Adams, Emmett R., and David C. Davis, 1962, Developments in southeastern states in 1961: American Association of Petroleum Geologists Bulletin, v. 46, no. 6, p. 953-958.
- Allen, Kermit, 1972, Eminence Dome-Natural-Gas storage in salt comes of age: Journal of Petroleum Technology, v. 24, p. 1299-1301.
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- Jirik, C. J., and L. K. Weaver, 1976, A survey of salt deposits and salt caverns; their relevance to the strategic petroleum reserve: Federal Energy Administration, FEA/S-76/310, 64 p.
- Karges, H. E., 1975, Petroleum potential of Mississippi shallow salt domes: Gulf Coast Association of Geological Societies, Transactions, v. 25, p. 168-181; 1975, (abstract), American Association of Petroleum Geologists Bulletin, v. 59, no. 9, p. 1726.
- Murray, Grover Elmer, 1961, Geology of the Atlantic and Gulf Coastal Province of North America: Harper and Bros., New York, 692 p.



EMINENCE DOME

FIGURE 58



CONTOUR INTERVAL: 10'



EMINENCE DOME

FIGURE 59

GALLOWAY SALT DOME

GENERAL DATA

Location: Sections 24,25-T13N-R2E, and Sections 30,43,45-T13N-R3E, Claiborne and Warren Counties, Mississippi

USGS topographic map(s): Willows

Geophysical data: Moderate gravity minimum

Estimated size and shape: Circular, one mile diameter

Estimated base fresh water (10,000 ppm): -3,400'

Economic use: None to date

Shallowest known cap rock: 3,990' (Charles H. Osmond No. 1 Anderson-Tully)

Shallowest known salt: 4,432' (Charles H. Osmond No. 1 Anderson-Tully)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Washita-Fredericksburg Formation (Sun Oil Company No. 1 Parker Brothers)

Nearest oil or gas production: Russum and Redlick fields, 16 miles south-southwest, produced from the Upper Cretaceous Tuscaloosa Group. Newman Field, 16.5 miles northeast, produces from the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Charles H. Osmond No. 1 Anderson-Tully

API well number: 23-149-00053

Location: 1,876' due E of a point 2,200' S of NW/corner of Section 43-T13N-R3E, Warren County (approximate center of Lot 11)

Elevation: 84' DF

Total depth: 5,730'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Jackson	295'
Moodys Branch	667'
Cockfield	695'
Cook Mountain	1,675'
Sparta	1,925'
Cane River	3,302'
Winona	3,356'
Wilcox(?)	3,442'
cap rock	3,990'-4,196'
shale	4,196'-4,350'
anhydrite	4,350'
salt	4,432'

Geophysical logs: Schlumberger electrical log 210'-5,750'

Comments: "Osmond did extensive seismic work before

selecting a location." (Mellen) Cored 4,026'-37' (3 cores), recovered 7' limestone; 5,720'-30', recovered 10' salt.

Completed: D&A 11/1945

Additional drilling:

Well: Sun Oil Company No. 1 Parker Brothers

API well number: 23-021-00049

Location: 2,198' FWL and 2,003' FNL of Section 27-T13N-R2E, Claiborne County

Elevation: 239' GL, 258' DF

Total depth: 10,427'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

chalk	8,044'
Lower Tuscaloosa	9,770'
Lower Cretaceous	10,090'

Geophysical logs: Schlumberger Induction-Electrical Log 2,213'-10,426'

Comments:

Completed: D&A 6/1961

Well: Exploration Tool Corporation No. 1 Ira Clay Rayner, Jr. et al.

API well number: 23-149-20008

Location: From NW/corner of section 28, go Easterly along line between sections 28 and 29 for 2,620' then southerly at right angle 150' to location in Section 28-T13N-R3E, Warren County.

Elevation: 103' GL, 108' DF, 110' KB

Total depth: 5,035'

Reported formation tops: (scout ticket)

Tallahatta	3,220'
Wilcox	3,528'

Geophysical logs: Dresser Atlas Induction Electrolog 410'-5,030'

Comments: Took 22 sidewall cores from 2,862'-4,824', all no show. The scout ticket reported 45 apparently additional sidewall cores, but reported no interval.

Completed: D&A 12/1975

SELECTED REFERENCES

- Alexander, C. W., 1946, Developments in southeastern states in 1945: American Association of Petroleum Geologists Bulletin, v. 30, no. 6, p. 1041-1042.
- Murray, Grover Elmer, 1961, Geology of the Atlantic and Gulf Coastal Province of North America: Harper and Bros., New York, 692 p.

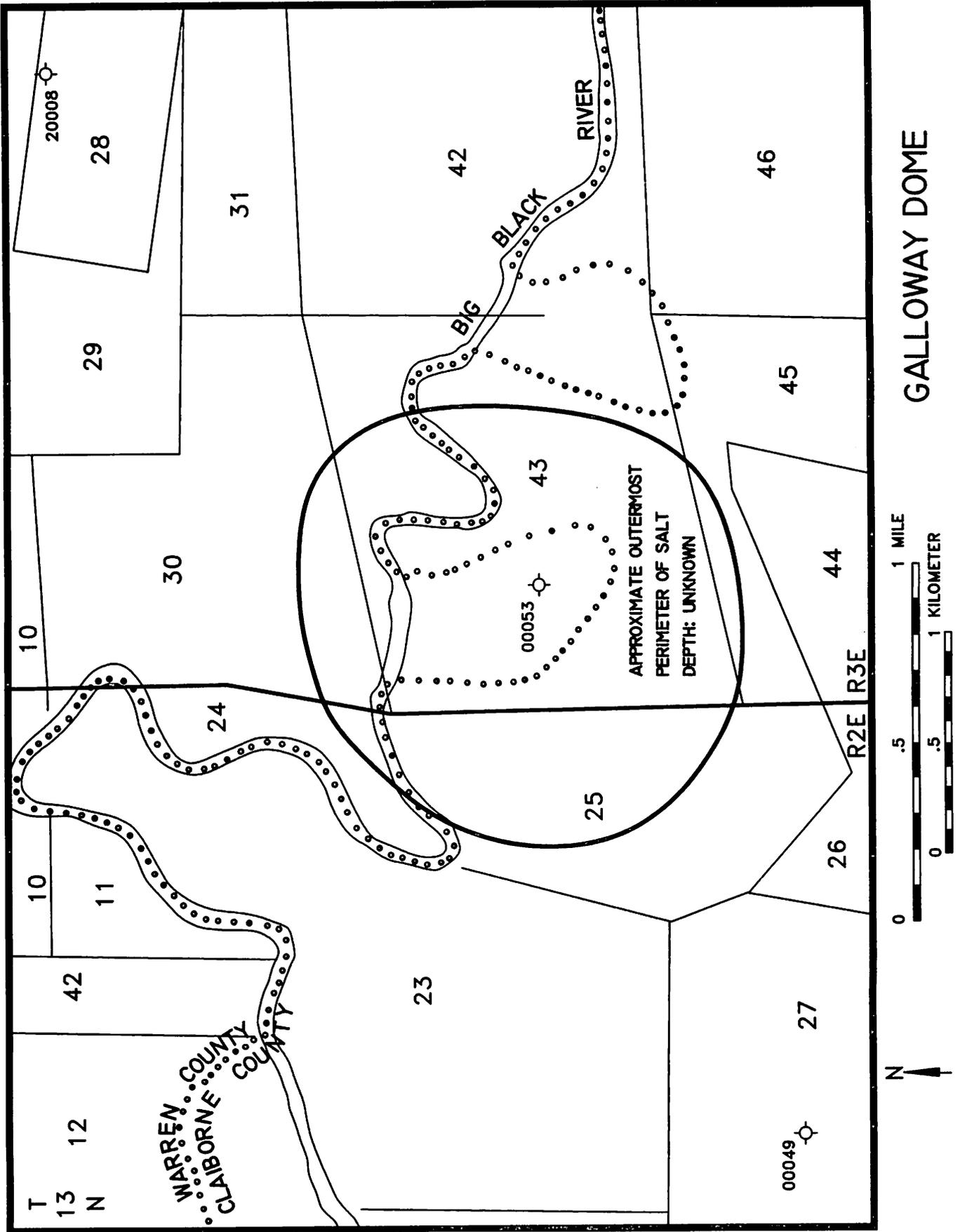
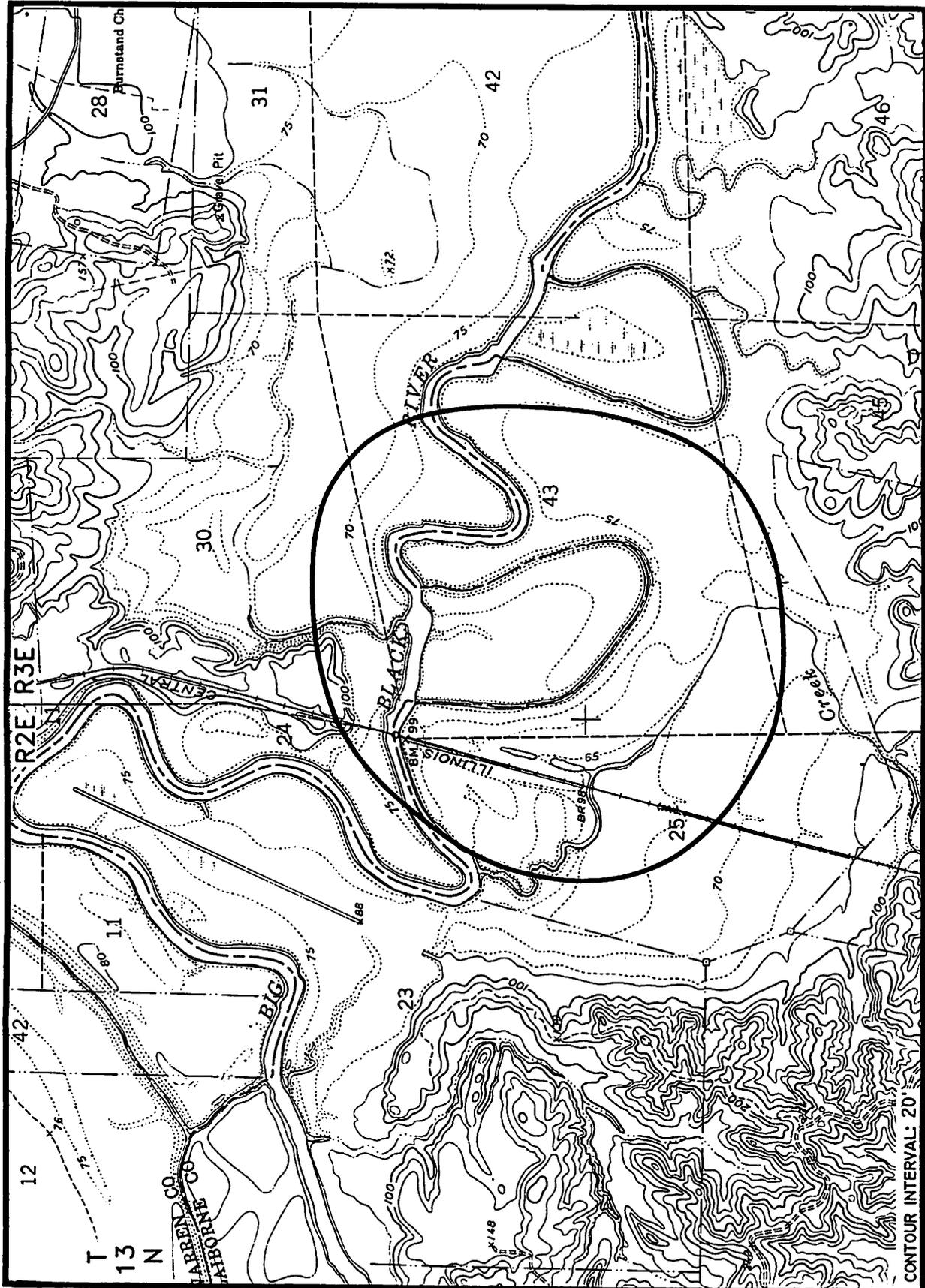


FIGURE 60



GALLOWAY DOME

FIGURE 61

GLASS SALT DOME

GENERAL DATA

Location: Sections 6,7,49-T14N-R3E, Sections 33,34,35-T15N-R3E, Warren County, Mississippi
USGS topographic map(s): Yokena
Geophysical data: Moderate gravity minimum
Estimated size and shape: Approximately circular, 1.2 miles in diameter
Estimated base fresh water (10,000 ppm): -3,300'
Economic use: None to date
Shallowest known cap rock: 3,938' (W. O. Allen (Hassie Hunt) No. 1 J. W. Culley)
Shallowest known salt: 4,030' (W. O. Allen (Hassie Hunt) No. 1 J. W. Culley)
Oldest formation penetrated within one mile of dome: Lower Eocene Wilcox Formation (W. O. Allen (Hassie Hunt) No. 1 J. W. Culley)
Nearest oil or gas production: Newman Field, 13 miles east, produces from the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: W. O. Allen (Hassie Hunt) No. 1 J. W. Culley
API well number: 23-149-00001
Location: 1,980' FNL and 1,980' FWL of 529 acre Culley tract in Section 6-T14N-R3E, or 2,675' S along section line from NW/corner of Section 6, thence 1,400' E, at right angles, to location in Section 6-T14N-R3E
Elevation: 203' (?) (scout ticket), 205' (?) (log heading and Mississippi State Oil and Gas Board well file)
Total depth: 4,490' (original hole)
Reported formation tops: (scout ticket)

Cook Mountain	1,473'
Sparta	1,528'
Cane River	2,468'
Tallahatta	2,583'
Wilcox	2,893'
cap rock	3,938'
cap rock	3,988' (Miss. State Oil and Gas Board well file)
salt	4,030'

Geophysical logs: Schlumberger electrical log 983'-4,485'
Comments: The well was temporarily abandoned 3/1940. In 1/1941 it was re-entered, sidetracked at approximately 2,626', and drilled into salt at approximately 2,700'

(samples). The well apparently drilled out of salt as an attempt was made to core and drillstem test the sidetrack hole. The last sidetrack core, 3,990'-4,008', recovered black slickensided shale and 6' cap rock. According to the Mississippi State Oil and Gas Board well file, 113 cores were cut from 2,808'-4,008' (overall), and the operators of the sidetrack hole were W. O. Allen, Tulsa, and Hassie Hunt, Dallas. The well was drilled on a surface structure according to a note on the back of the Mississippi State Oil and Gas Board well completion report.
Completed: D&A 3/1941

Additional drilling:

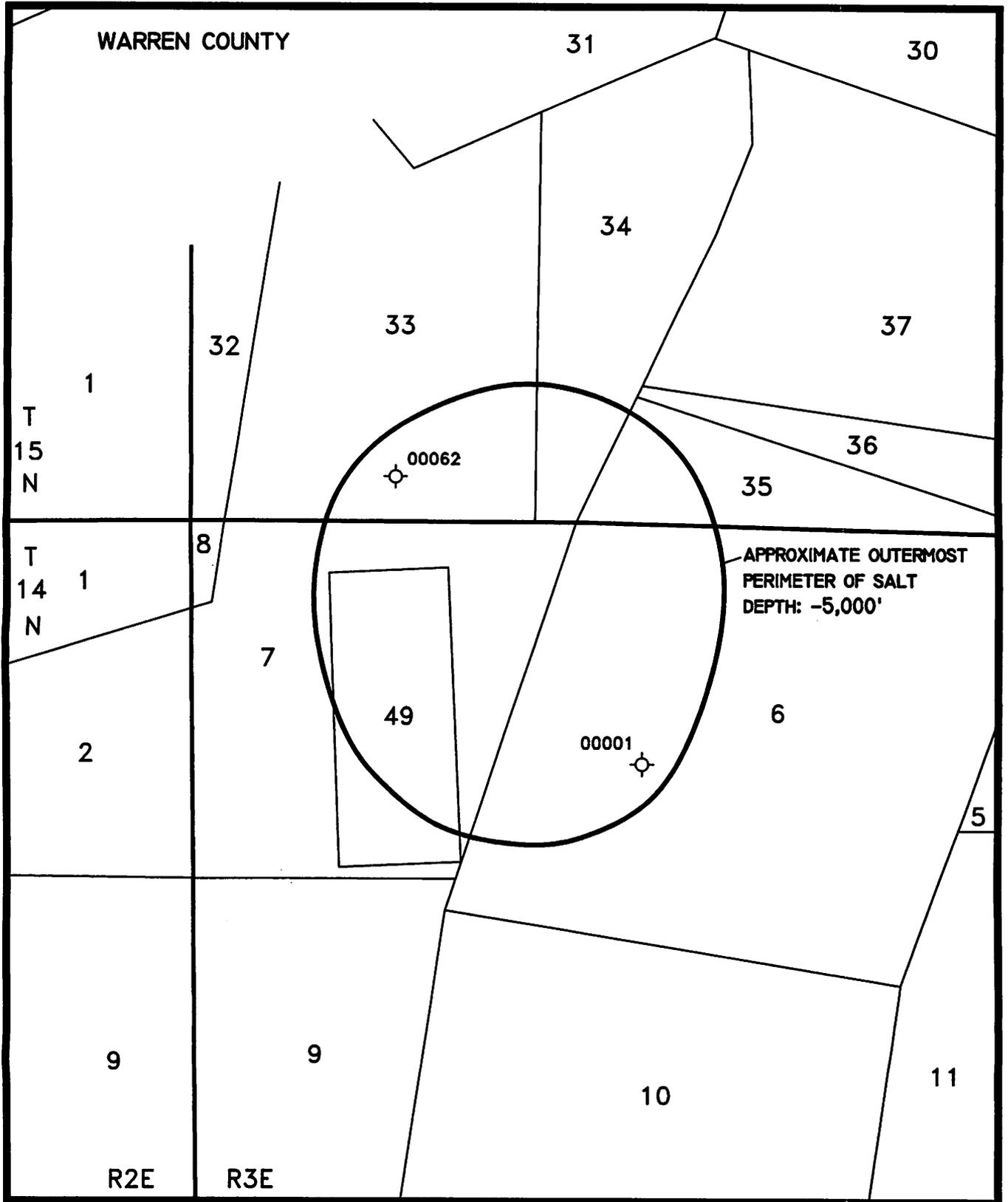
Well: United Gas Public Service Company No. 1 Tchula Co-op (Company) Store
API well number: 23-149-00062
Location: 1,980' FEL and 660' FSL of Section 33-T15N-R3E
Elevation: 84' GL, 88' DF
Total depth: 4,008'
Reported formation tops: (Mississippi State Oil and Gas Board well file)

Claiborne	725'
Minden	1,280'
Sparta	1,500'
Cane River	2,596' (?)
Wilcox	3,216' (?)

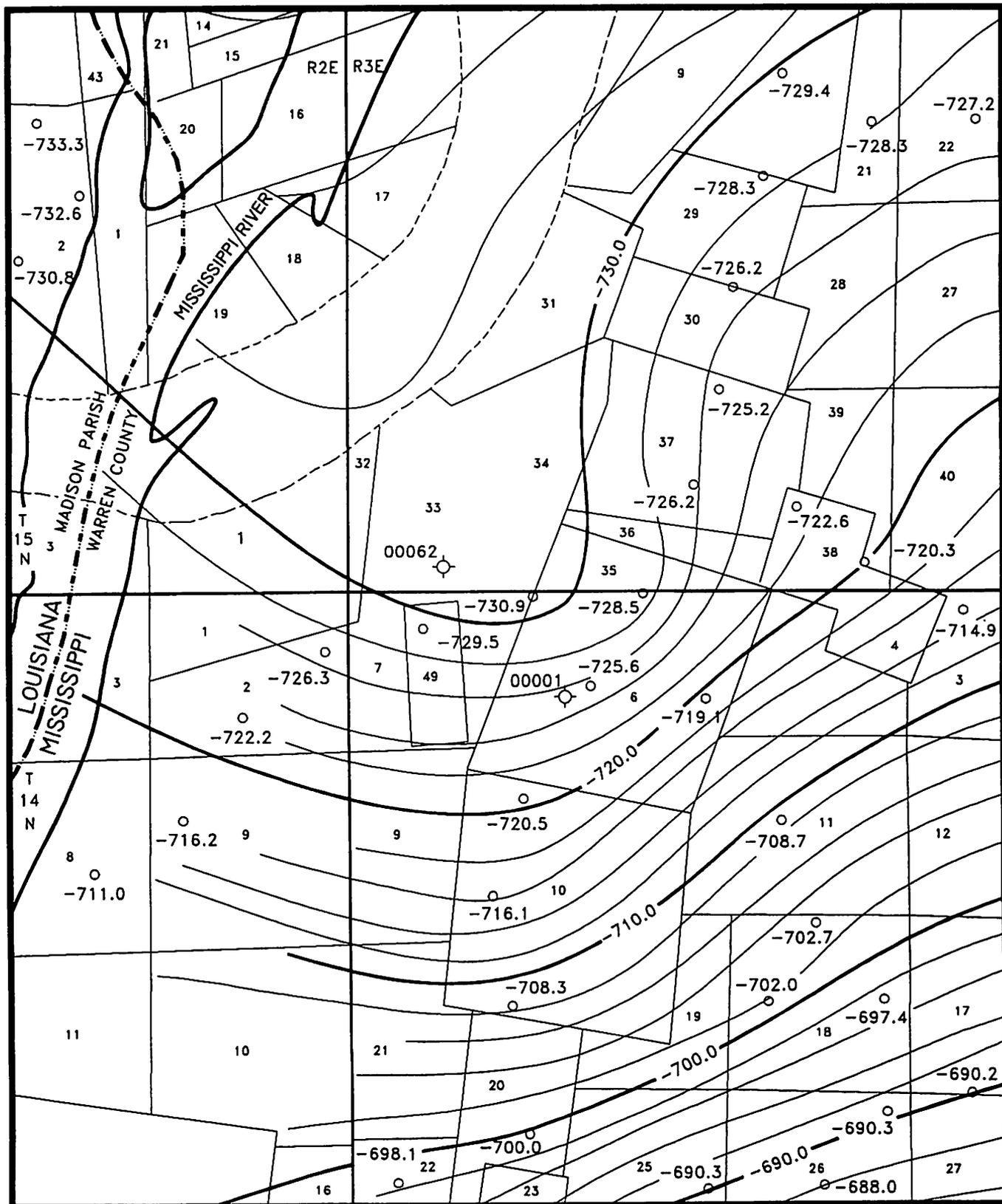
Geophysical logs:
Comments:
Completed: D&A 12/1931

SELECTED REFERENCES

- Alexander, C. W., 1946, Developments in southeastern states in 1945: American Association of Petroleum Geologists Bulletin, v. 30, no. 6, p. 1041-1042.
Mellen, Frederic Francis, Thomas Edwin McCutcheon, and Malcolm Rogers Livingston, 1941, Warren County mineral resources: Mississippi State Geological Survey, Bulletin 43, 140 p.
Murray, Grover Elmer, 1961, Geology of the Atlantic and Gulf Coastal Province of North America: Harper and Bros., New York, 692 p.
Ver Wiebe, Walter August, 1949, Oil fields in North America: Edwards Brothers, Inc., Ann Arbor, Michigan, 251 p.



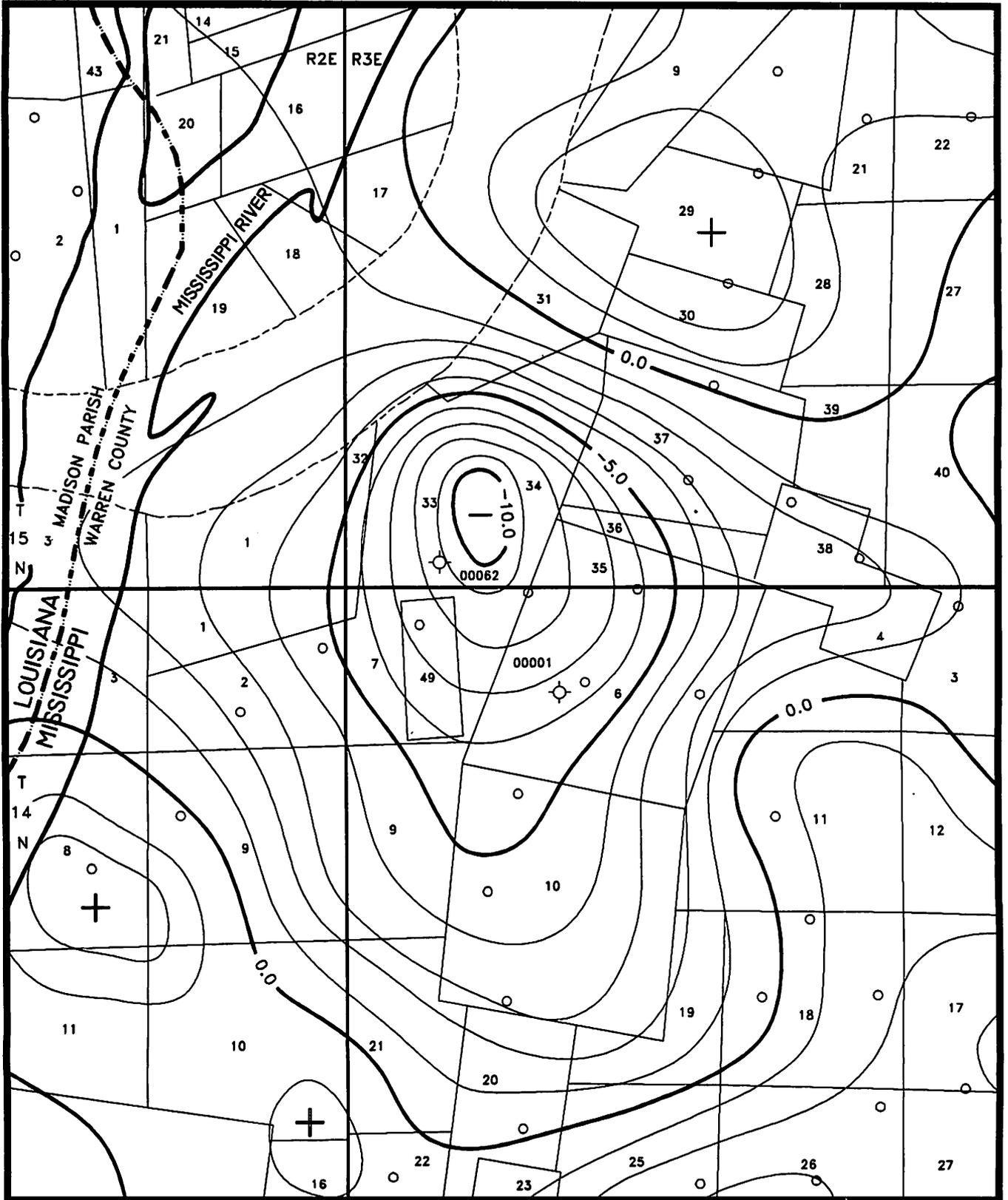
GLASS DOME
FIGURE 62



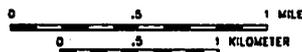
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MAP PROVIDED BY GRAVITY MAP
SERVICE, RICHMOND, TEXAS

GLASS DOME AREA

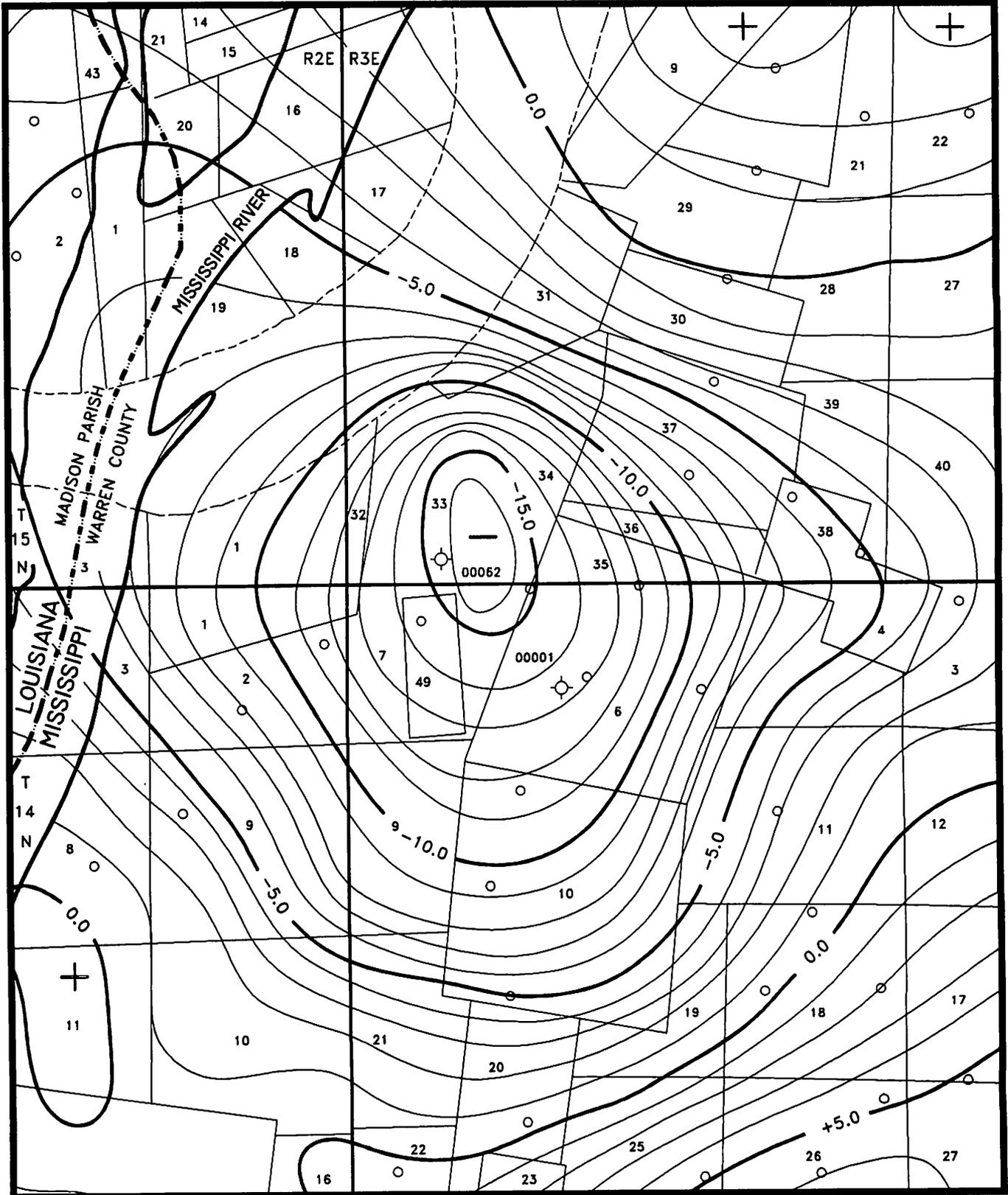
FIGURE 63



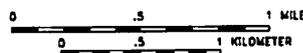
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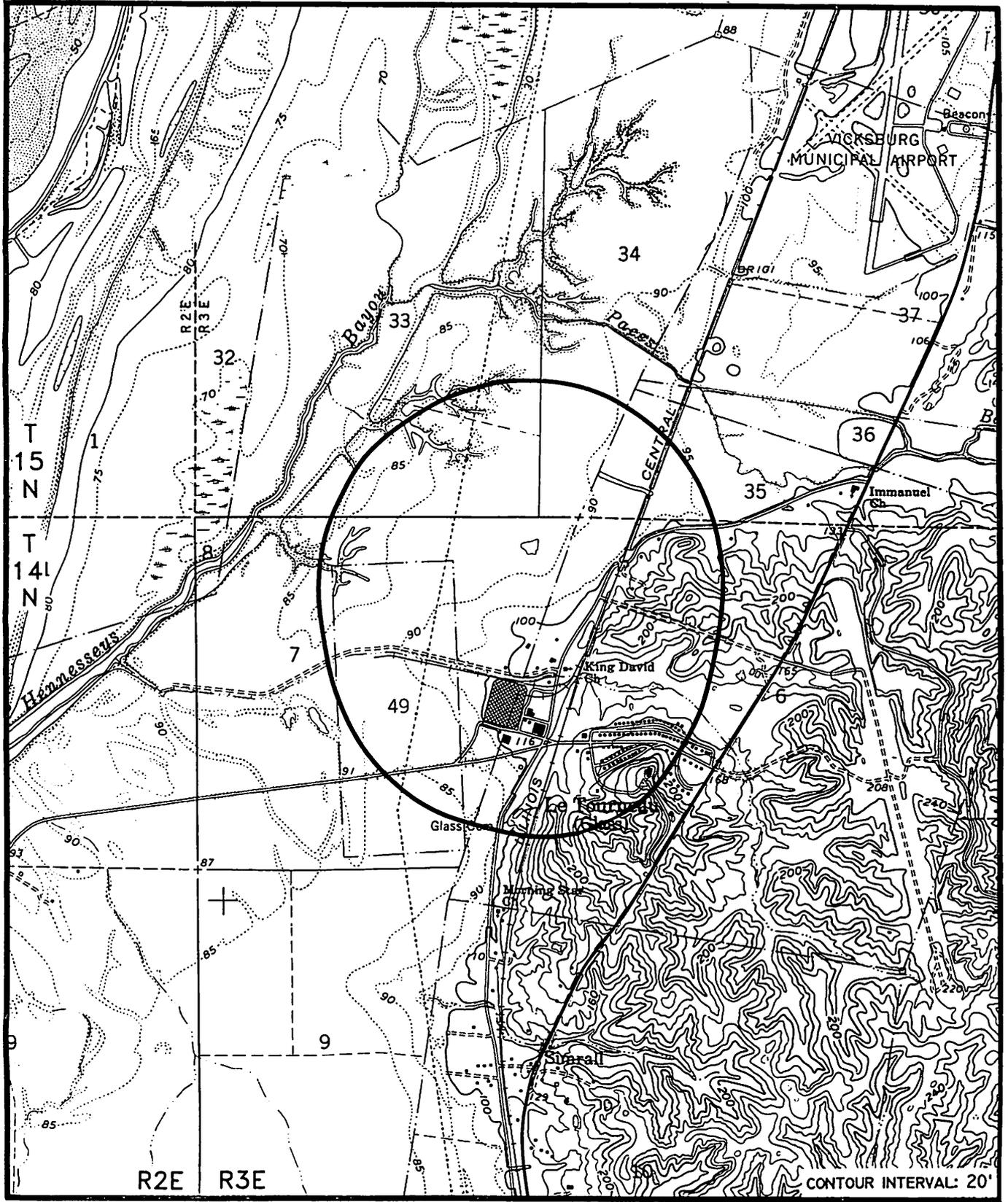
GLASS DOME AREA
FIGURE 64



REDRAFTED FROM DEEPER RESIDUAL GRAVITY MAP PROVIDED BY GRAVITY MAP SERVICE, RICHMOND, TEXAS



GLASS DOME AREA
FIGURE 65



GLASS DOME

FIGURE 66

GRANGE SALT DOME**GENERAL DATA**

Location: Sections 4,5,6-T8N-R20W, Sections 31,32,33-T9N-R20W, Lawrence County, Mississippi

USGS topographic map(s): Monticello NE

Geophysical data: Strong gravity minimum with a cap rock maximum

Estimated size and shape: Nearly circular, 1.5 miles in diameter

Estimated base fresh water (10,000 ppm): -3,200'

Economic use: None to date

Shallowest known cap rock: Undrilled

Shallowest known salt: Undrilled, estimated 3,000' (Mellen)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Paluxy Formation (Continental Oil Company No. 1 Gaylord Container Corporation)

Nearest oil or gas production: Hooker Field, 2 miles west, produces from the Lower Cretaceous Rodessa, Sligo, and Hosston formations.

DRILLING HISTORY

Discovery well: Undrilled. For many years this dome has been known to exist. The first evidence was from gravity data and through the years numerous seismic lines have been shot over this dome.

Additional drilling:

Well: Continental Oil Company No. 1 Gaylord Container Corporation

API well number: 23-077-00003

Location: 570' W and 415' N of SE/corner of SW/4 of SE/4 of Section 30-T9N-R20W

Elevation: 455' DF (log heading), 408' GL, 422' DF (Mississippi State Oil and Gas Board well completion report)

Total depth: 13,016'

Reported formation tops: (scout ticket)

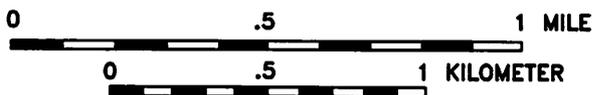
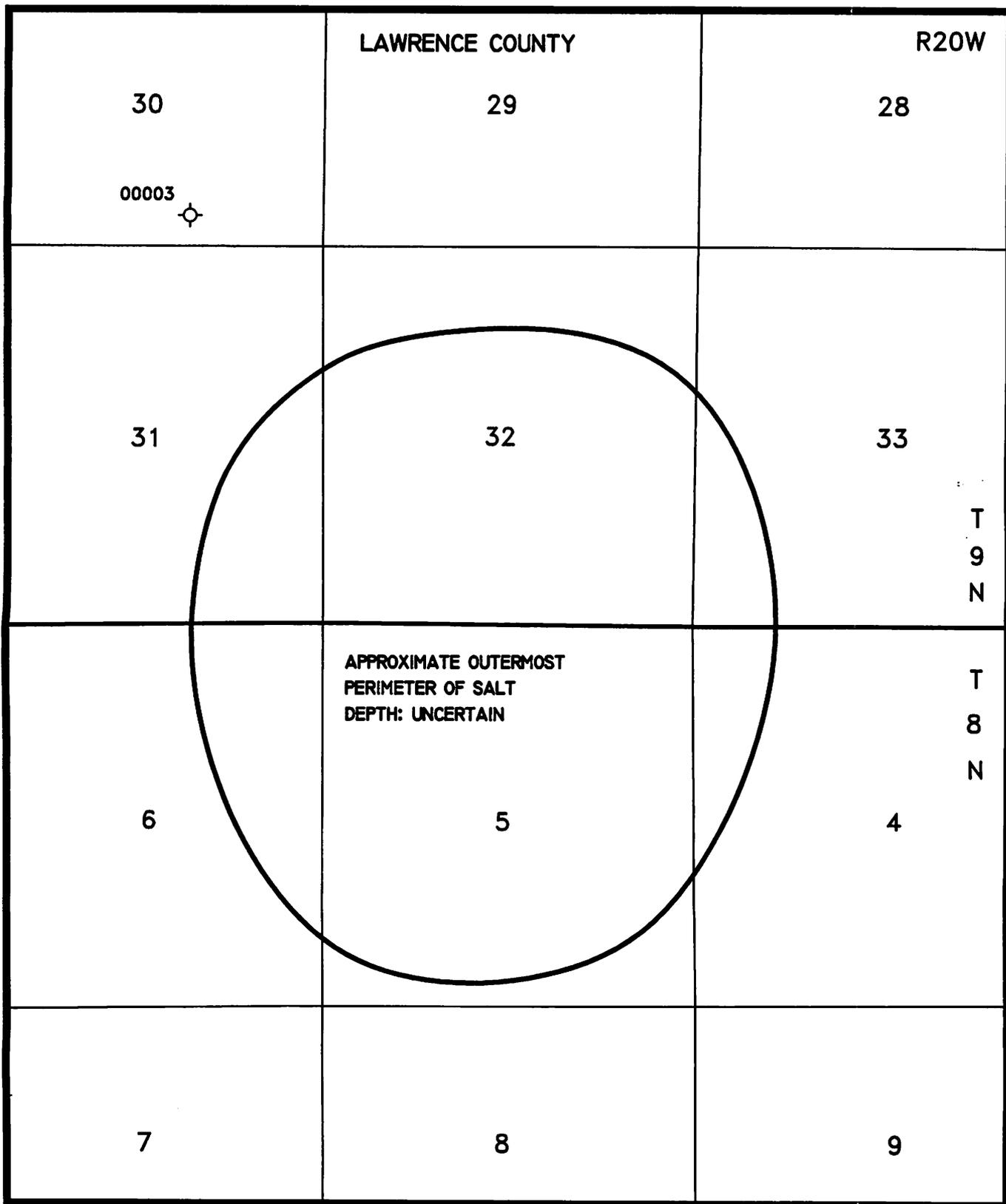
chalk	7,570'
base chalk	8,830'
Tuscaloosa	9,203'
Middle Tuscaloosa	9,947' (?)
Lower Tuscaloosa	10,154'
Lower Cretaceous	10,363' (?)
Paluxy (?)	11,513'

Geophysical logs: Schlumberger Electrical Log 118'-13,014'

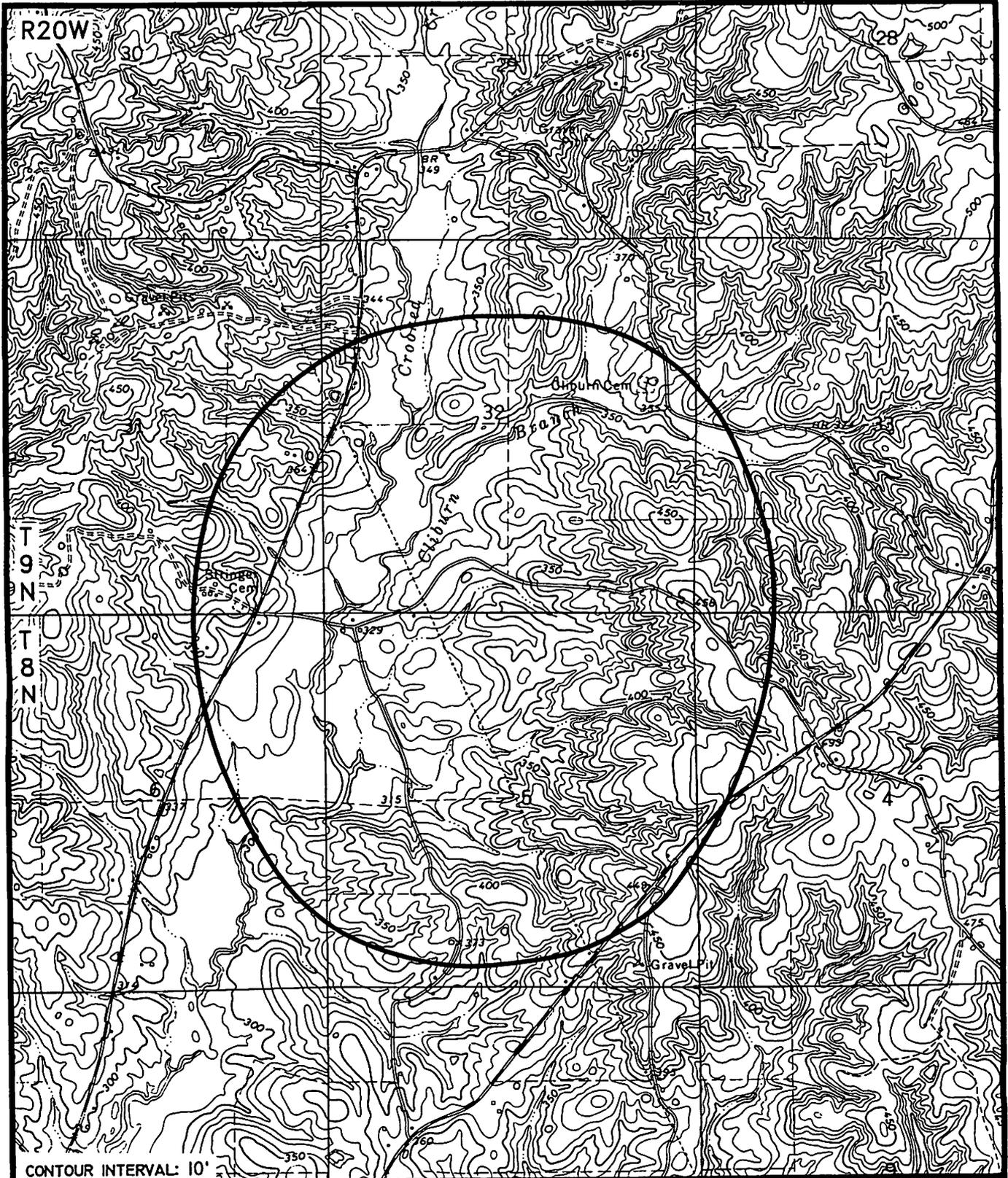
Comments: Cored 10,245'-65', recovered 5.5' shale, 3.75" sand, 2' shale. Took 30 sidewall cores from 9,116'-10,498', all no show. Took 30 sidewall cores from 10,984'-12,978', all no show.

Circulated drilling break 10,240'-45', circulated slight gas show; 11,388'-92', circulated sand with slight show oil, dull yellow fluorescence.

Completed: D&A 4/1956



GRANGE DOME
FIGURE 67



GRANGE DOME

FIGURE 68

HALIFAX SALT DOME

GENERAL DATA

Location: Section 6-T7N-R3W, Sections 1,2,12-T7N-R4W, and Section 36-T8N-R4W, Hinds County, Mississippi

USGS topographic map(s): Phoenix, Queens Hill Lake

Geophysical data: Small minimum with a cap rock maximum

Estimated size and shape: Nearly circular, one mile in diameter

Estimated base fresh water (10,000 ppm): -4,000'

Economic use: None to date

Shallowest known cap rock: 3,907' (Plains Production Company (Byrd-Frost) No. 1 Halifax Plantation (Gaddis-Halifax) (Halifax Planting Company) (Gaddis Farms)

Shallowest known salt: 3,995' (Plains Production Company (Byrd-Frost) No. 1 Halifax Plantation (Gaddis-Halifax) (Halifax Planting Company) (Gaddis Farms)

Oldest formation penetrated within one mile of dome: Probable Lower Cretaceous Hosston Formation (E. P. Operating Company No. 1 Gaddis Farms 12-2)

Nearest oil or gas production: Oak Ridge Field, 8 miles southwest, produces from the Lower Cretaceous Rodessa and Hosston formations and the Jurassic Cotton Valley Formation. North Bolton Field, 9 miles southeast, produces from the Lower Cretaceous Rodessa Formation.

DRILLING HISTORY

Discovery well: Plains Production Company (Byrd-Frost) No. 1 Halifax Plantation (Gaddis-Halifax) (Halifax Planting Company) (Gaddis Farms)

API well number: 23-049-00237

Location: 466' FNL and 350' FEL of SW/4 of NW/4 of Section 1-T7N-R4W

Elevation: 230' GL (topographic map), 260' DF (scout ticket), 247' (?) (L&S reporting service)

Total depth: 3,999'

Reported formation tops: (scout ticket)

Vicksburg	50' (sample)
Forest Hill	135' (sample)
Jackson	380' (sample)
base Jackson	758'
Cockfield	850'-1,210' (sample)
Cook Mountain	1,302'
Sparta	1,418'
Cane River	2,193'
Tallahatta	2,500'
Wilcox	2,790'
cap rock	3,907'
salt	3,995' (Mellen)

Geophysical logs: Schlumberger 648'-3,964'

Comments: Cored 3,976'-83', recovered 7' cap rock;

3,983'-93', recovered 3' cap rock. Took sidewall cores at 2,793', 2,794', 2,795', and 2,796', recovered sand, all no show. The Mississippi State Oil and Gas Board completion report renamed it the No. 1 Gaddis-Halifax.

Completed: D&A 12/1941

Additional drilling:

Well: Lionel Petroleum Corporation No. 1 J. L. Gaddis, Jr.

API well number: 23-049-00175

Location: 1,400' FNL and 1,980' FWL of Section 7-T7N-R3W

Elevation: 155' GL (topographic map), 172' (?) (scout ticket)

Total depth: 1,939'

Reported formation tops:

Geophysical logs: "No log was run." (Mellen)

Comments: "Good records are unavailable" (Mellen). Also reported as 400' S and 1,980' E of NW/corner of Section 7, and 1,980' FWL and 1,720' FNL of Section 7.

Completed: D&A 12/1933

Well: Plains Production Company No. 1 Lloyd Gaddis (Gaddis-Halifax No. 2)

API well number: 23-049-00236

Location: center of NW/4 of NE/4 of Section 7-T7N-R3W

Elevation: 186' DF

Total depth: 7,510'

Reported formation tops: (scout ticket)

Vicksburg	15' (sample)
Forest Hill	158' (sample)
Jackson	193' (sample)
Cockfield	685' (sample)
Minden	1,250' (sample)
Sparta	1,770'
Cane River	2,290'
Tallahatta	2,530'
Wilcox	2,895'
Midway	5,585'
Selma	6,540'
Eutaw	7,195'

Geophysical logs: Schlumberger electrical log 200'-7,500'

Comments: At least one core was cut at approximately 7,260'.

Completed: D&A 11/1942

Well: E. P. Operating Company No. 1 Gaddis Farms 12-2

API well number: 23-049-20185

Location: 820' FNL and 1,600' FEL of Section 12-T7N-R4W

Elevation: 158' GL, 185' DF, 186' KB

Total depth: 14,700'

Reported formation tops:

Ferry Lake anhydrite 11,180' (mudlog)
Geophysical logs: Halliburton Dual Induction Long Spaced
Sonic 3,543'-14,657', Spectral Density Log/DSN, HDD
Comments: Took sidewall cores, no details released.
Completed: D&A 10/1989

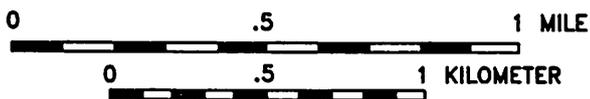
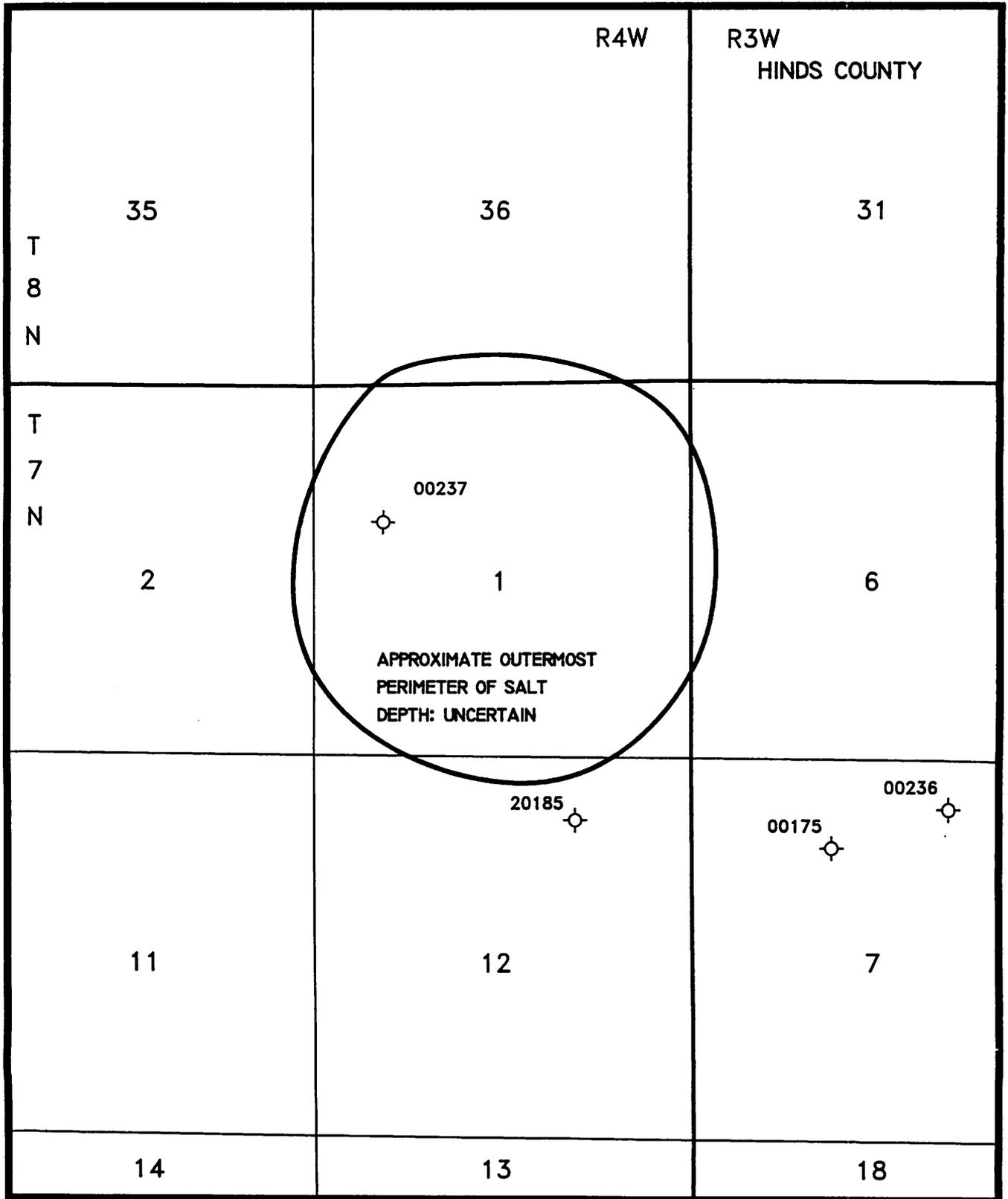
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Hughes, Urban B., 1942, Developments in southeastern United States in 1941: American Association of Petroleum Geologists Bulletin, v. 26, no. 6, p. 991-999.

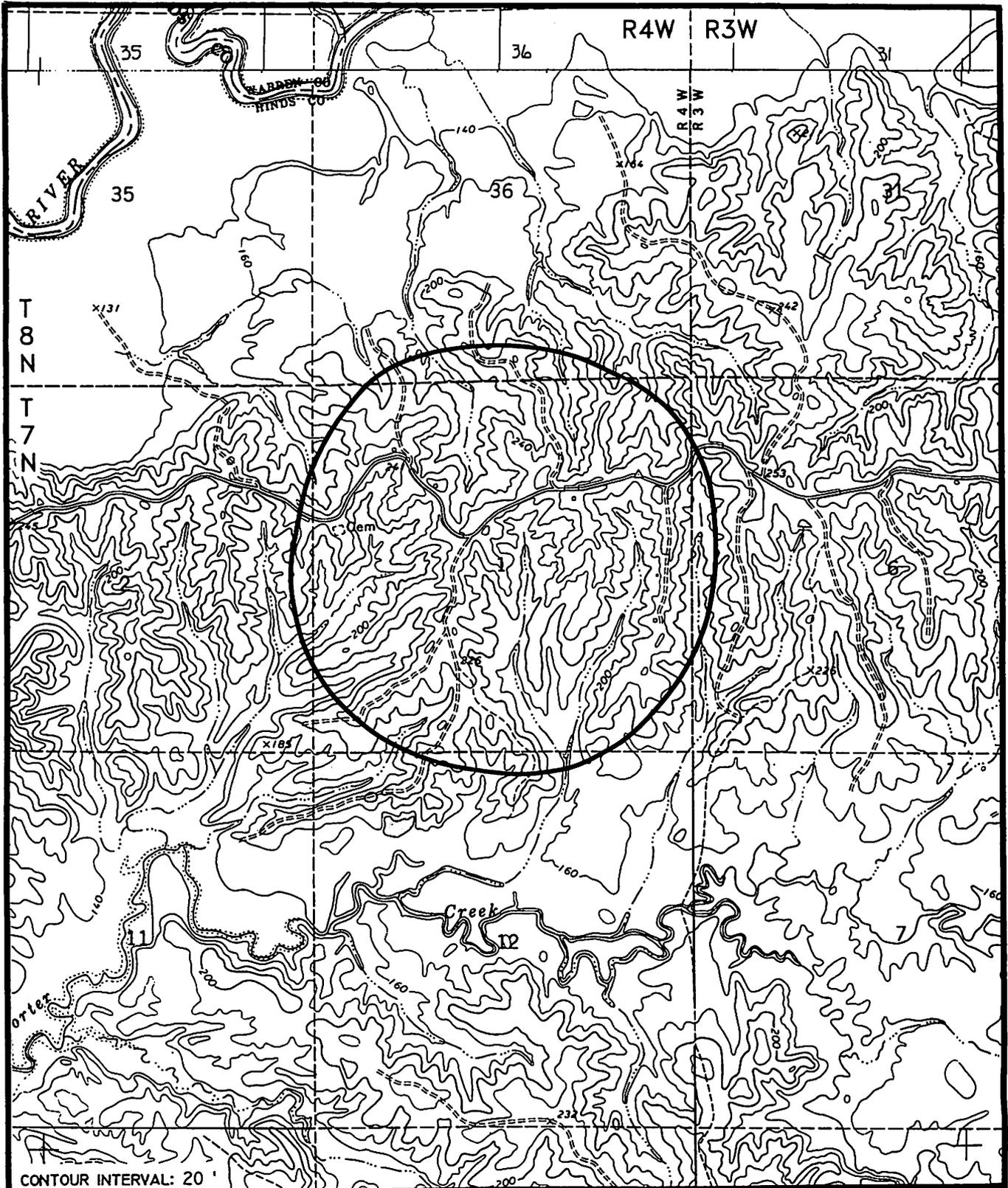
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Ver Wiebe, Walter August, 1949, Oil fields in North America: Edwards Brothers, Inc., Ann Arbor, Michigan, 251 p.



HALIFAX DOME

FIGURE 69



HALIFAX DOME

FIGURE 70

HAZLEHURST SALT DOME

GENERAL DATA

Location: Sections 21,22,27,28,33,34-T1N-R1W, Copiah County, Mississippi

USGS topographic map(s): Crystal Springs, Shady Grove

Geophysical data: Gravity shows a steep, small minimum with an associated cap rock maximum.

Estimated size and shape: Approximately circular, 1.6 miles in diameter.

Estimated base fresh water (10,000 ppm): -3,400'

Economic use: None to date

Shallowest known cap rock: 1,430' (Stanolind Oil and Gas Company No. 1 T. A. Huntington)

Shallowest known salt: Not reached

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Union Oil Company of California No. 1 C. C. Sojourner)

Nearest oil or gas production: Glancy Field, 13 miles southwest, produces from the Lower Cretaceous Rodessa and Hosston formations and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Stanolind Oil and Gas Company No. 1 T. A. Huntington

API well number: 23-029-00033

Location: 1,980' FSL and 1,980' FEL of Section 28-T1N-R1W

Elevation: 315' GL, 320' DF

Total depth: 1,650'

Reported formation tops: (drillers log)

cap rock 1,430'

anhydrite 1,640' (?) (scout ticket)

Geophysical logs: "No electrical log is available on this well." (Mellen)

Comments: "While drilling at 1,650' a crevice was encountered and circulation was lost. Seven pits of mud, seventy-five sacks Jell Foam, two thousand pounds cotton seed hulls and some saw dust were used in an attempt to restore circulation. Circulation was restored temporarily, but was lost again. The hole was bridged at 510', 15 sacks Portland common cement dumped on bridge. Plugged 480'-510'. Fluid level to 70'. Bridge of mud sacks and cotton seed hulls pushed down with drill pipe to 245'. Dumped 40 sacks common cement. No fluid loss. Plug from 210'-245'. Seven sacks cement in top of 16" casing." (drillers log)

Completed: D&A 3/1946

Additional drilling:

Well: Union Oil Company of California No. 1 C. C. Sojourner

API well number: 23-029-20034

Location: 2,084' FNL and 2,002' FWL of Section 22-T1N-R1W

Elevation: 403' GL, 428' DF, 430' KB

Total depth: 16,011'

Reported formation tops:

Cockfield 1,345'

Sparta 2,002'

Wilcox 3,280'

Midway 6,461'

chalk 7,328'

Lower Tuscaloosa 9,590'

Lower Cretaceous 10,027'

Paluxy 11,490'

Mooringsport 12,930'

Ferry Lake 13,560'-13,775'

Hosston 15,120'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 103'-16,004', Formation Density/Compensated Neutron Log/Gamma Ray, Microlog

Comments:

Completed: D&A 2/1982

Well: United States Borax and Chemical Corporation No. 22-1 Ramsey-USB

API well number: 23-029-20041

Location: 1,560' FWL and 290' FSL of Section 22-T1N-R1W

Elevation: 345' GL (scout report) 340' GL (Mississippi State Oil and Gas Board well file)

Total depth: 2,055'

Reported formation tops: (scout ticket)

Yazoo 860'

Moodys Branch 1,086'

Cockfield 1,110'

fault 1,475'

Kosciusko 1,475'

Zilpha 1,600'

Winona 1,930'

Geophysical logs: G. D. S. (Griner Drilling Service) Logging Service unnamed log with spontaneous potential and short and long normal resistivity curves, 333'-2,055'

Comments: Cored 2,017'-38', clay and carbonate; 2,038'-55', clay and carbonate. Stratigraphic/sulphur test

Completed: D&A 10/1990

Well: United States Borax and Chemical Corporation No. 27-1 Ramsey-USB

API well number: 23-029-20040

Location: 630' FSL and 250' FWL of Section 27-T1N-R1W

Elevation: 335' GL (Mississippi State Oil and Gas Board well file), 312 ? (log heading)

Total depth: 1,667'

Reported formation tops: (scout ticket)

Yazoo 745'

Moodys Branch 1,210'

Cockfield 1,230'

cap rock 1,560'

Geophysical logs: Griner Drilling Service Gamma N16 N64 and SP 5'-1,667'

Comments: Stratigraphic/sulphur test

Completed: D&A 10/1990

Well: United States Borax and Chemical Corporation No. 28-1 Ramsey-USB

API well number: 23-029-20042

Location: 630' FNL and 1,550' FWL of Section 28-T1N-R1W

Elevation: 435' GL

Total depth: 2,036'

Reported formation tops: (scout ticket)

Yazoo 630'

Moodys Branch 1,060'

Cockfield 1,095'

Cook Mountain 1,643'

Kosciusko 1,875'

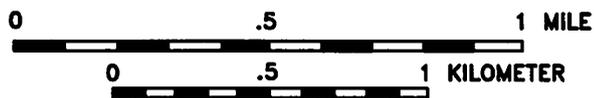
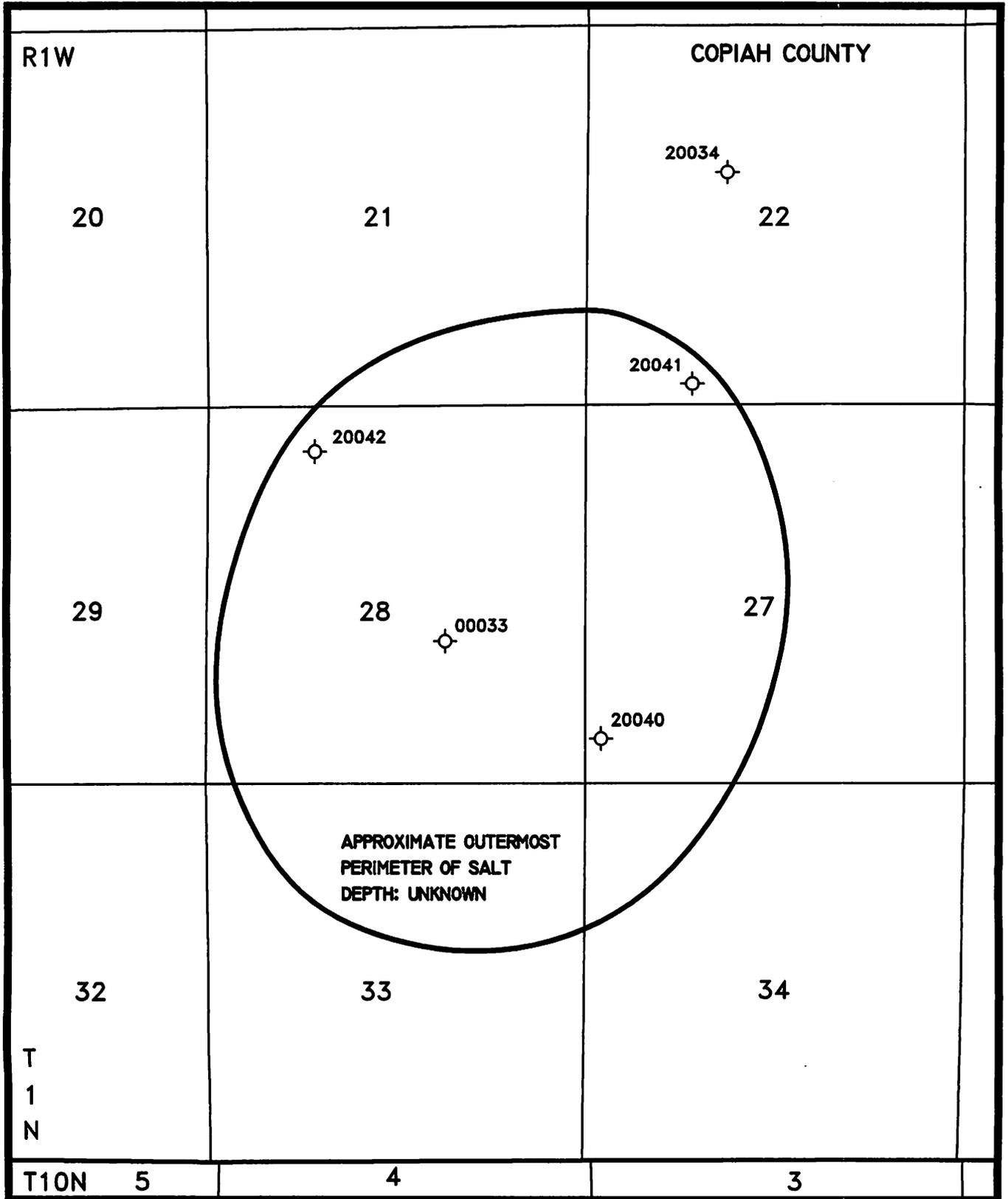
Geophysical logs: Griner Drilling Service Gamma, 16, 64 SP 5'-2,032'

Comments: Stratigraphic/sulphur test

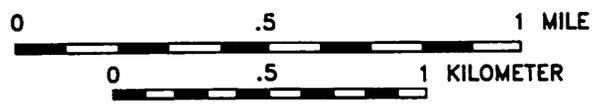
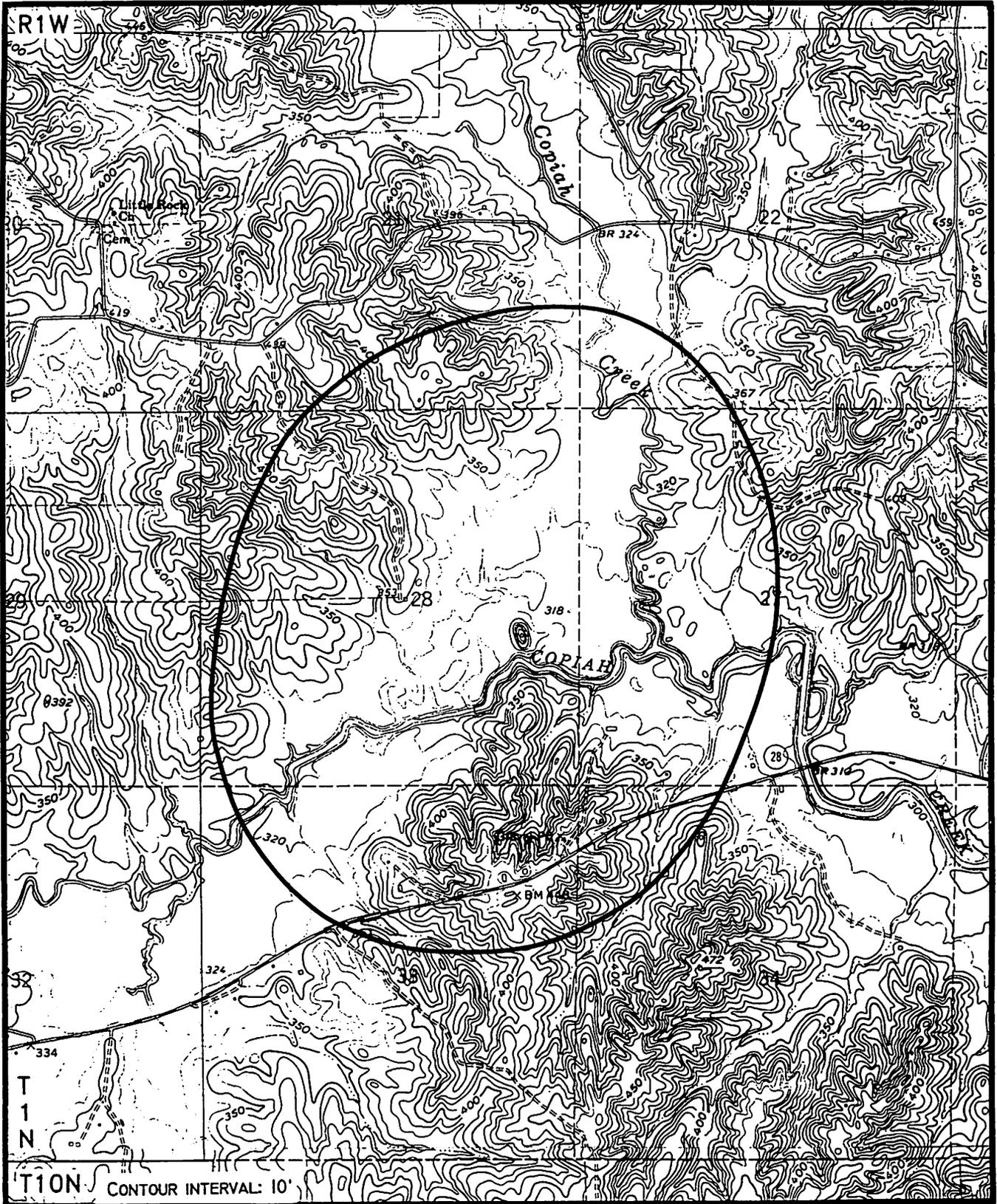
Completed: D&A 9/1990

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HAZLEHURST DOME
FIGURE 71



HAZLEHURST DOME
FIGURE 72

HERVEY SALT DOME

GENERAL DATA

Location: Sections 5,6,7,8,17,18-T10N-R5E, Claiborne County, Mississippi

USGS topographic map(s): Barlow, McBride

Geophysical data: Gravity shows a strong minimum.

Estimated size and shape: Assumed approximately circular, one mile diameter

Estimated base fresh water (10,000 ppm): -2,950'

Economic use: None to date

Shallowest known cap rock: 3,326'

Shallowest known salt: 3,547'

Oldest formation penetrated within one mile of dome: Middle Eocene Tallahatta Formation. There are no flank wells.

Nearest oil or gas production: Union Church Field, 11 miles south, produces from the Lower Cretaceous Rodessa Formation. Glancy Field, 12 miles southeast, produces from the Lower Cretaceous Rodessa and Hosston formations and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Sun Oil Company No. 1 B. D. Segrest

API well number: 23-021-00041

Location: Center of SE/4 of NE/4 of Section 7-T10N-R5E

Elevation: 209' DF

Total depth: 3,554'

Reported formation tops: (scout ticket)

Jackson	930'
Moodys Branch	1,172'
Cockfield	1,221'
Cook Mountain	1,669'
Camerina	1,710'
Sparta	1,818'
Cane River	2,881'
Tallahatta	3,225'
false cap rock(?)	3,300'
good cap rock	3,326'
anhydrite	3,500' (driller)
salt	3,547' (driller)

Geophysical logs: Schlumberger electrical log 710'-3,330'

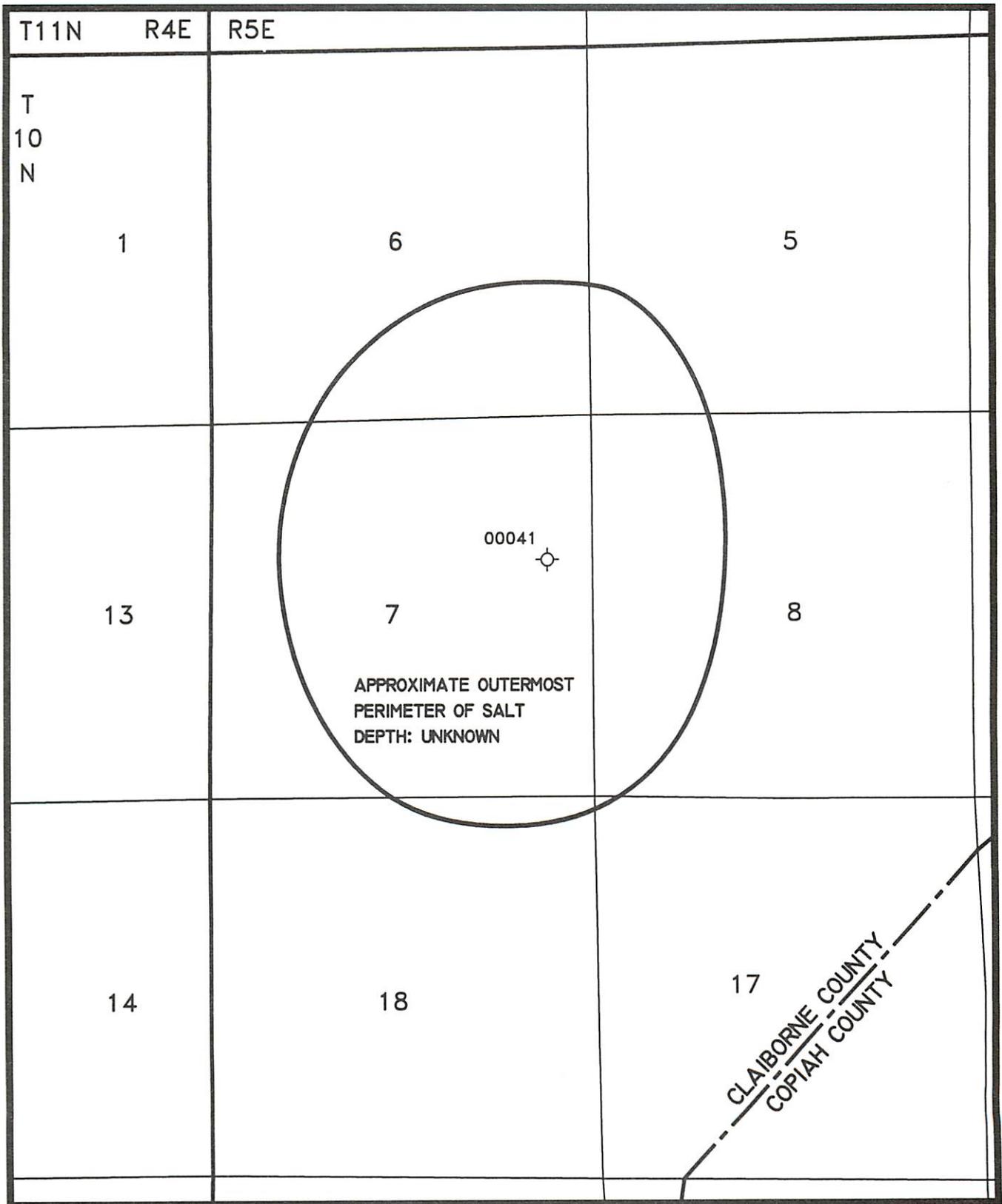
Comments: Cored 1,200'-15' (2 cores), recovered 12' 6" sand; 1,215'-25', recovered 4' 3" sand, 2' 6" shale, 3' 3" sand; 1,225'-35', recovered 4' 6" sand with shale streaks; 1,640'-45', recovered 1' 6" sand; 1,676'-81', recovered 4' 6" shale; 1,760'-65', recovered 8" lignite, 2' 6" shale, 1' 10" sand; 1,765'-85' (2 cores), recovered 10' 2" sand; 1,785'-95', recovered 9' 9" sand, 2' 3" shale; 2,440'-45', recovered 2' 3" sand, 1' 9" shale; 2,445'-505' (6 cores), recovered 40' 6" sand; 2,505'-15', recovered 10' sand with lignite streaks; 2,515'-25', recovered 4' sand, 1' 6" lignite; 2,525'-30', recovered 2' 6" sand; 2,666'-2,706' (4 cores), recovered 38' 6" sand; 2,965'-70', recovered 5' dark brown-gray, slightly calcareous, glauconitic, fossiliferous sandstone; 3,315'-20', recovered 2' 3" limestone; 3,320'-23', recovered 1' sandstone; 3,323'-26', recovered 10" limestone with calcite veins; 3,326'-30', recovered 2' limestone with calcite veins; 3,365'-70', recovered 1.5' slightly sandy limestone; 3,370'-77', recovered 1' 3" limestone; 3,503'-08', recovered 2' 8" anhydrite and dolomite; 3,508'-27' (4 cores), recovered 11' 3" anhydrite; 3,549'-54', recovered 3" salt.

Took sidewall cores at 912', 1,209', 1,672', 1,793', 1,806', 2,138', 2,334', 2,378', 2,521', 2,770', 2,808', 2,864', 2,877', 2,890', and 3,273'. All conventional and sidewall cores were no show.

Completed: D&A 6/1945

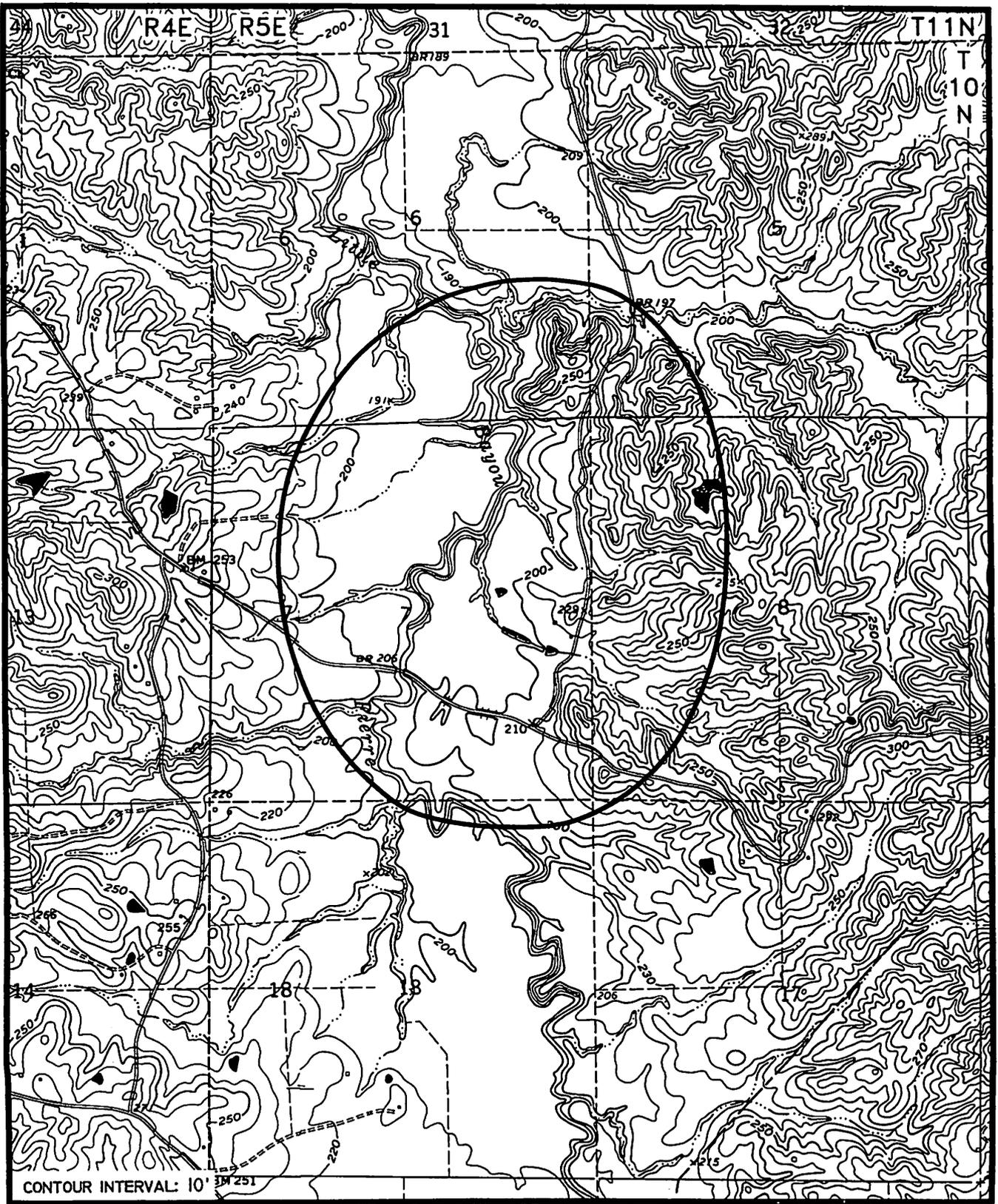
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- Murray, Grover Elmer, 1961, Geology of the Atlantic and Gulf Coastal Province of North America: Harper and Bros., New York, 692 p.

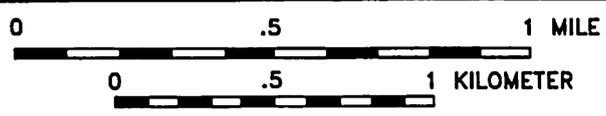


HERVEY DOME

FIGURE 73



CONTOUR INTERVAL: 10'



HERVEY DOME

FIGURE 74

HUBBARD SALT DOME**GENERAL DATA**

Location: Sections 5,6,7-T4N-R4W, and Sections 31,32-T5N-R4W, Hinds County, Mississippi

USGS topographic map(s): Cayuga

Geophysical data: Gravity shows a weak minimum with a slight cap rock maximum.

Estimated size and shape: Approximately circular, 1.25 mile in diameter

Estimated base fresh water (10,000 ppm): -3,200'

Economic use: None to date

Shallowest known cap rock: 4,282'

Shallowest known salt: Not reached

Oldest formation penetrated within one mile of dome: There are no flank wells. The closest well is two miles west, drilled to 12,502' in the Lower Cretaceous.

Nearest oil or gas production: Learned Field, 5 miles to the southeast, produces from the Lower Cretaceous Sligo Formation. Newman Field, 2.5 miles to the west, produces from the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Southeastern Resources Corporation No. 1 Mae White Jones et al.

API well number: 23-049-20030

Location: 481' FNL and 394' FEL of SE/4 of NW/4 of Section 6-T4N-R4W

Elevation: 218' GL (topographic map), 225' DF (est. on log heading)

Total depth: 4,295'

Reported formation tops: (scout ticket)

Moodys Branch 1,034'

Cook Mountain 1,817'

180' fault 2,060'

Winona 2,919' (Miss. State Oil and Gas Board well file)

Wilcox 3,169'

cap rock 4,282'

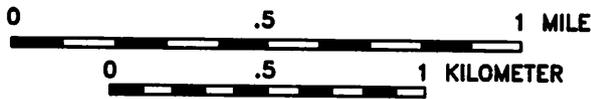
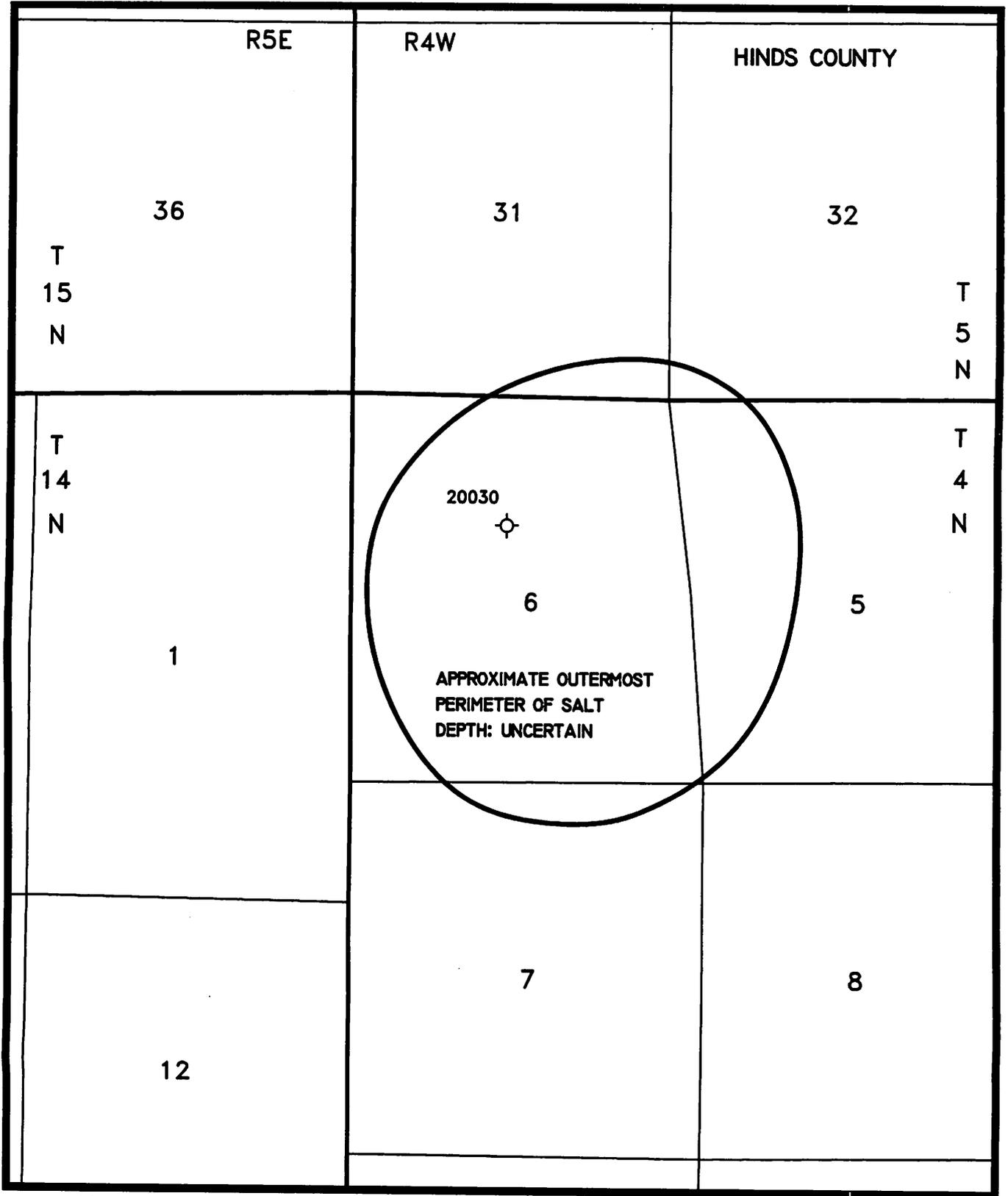
Geophysical logs: Schlumberger Induction-Electrical Log 370'-4,294'

Comments: The Mississippi State Oil and Gas Board list of salt dome discoveries lists salt as having been penetrated but the scout ticket does not. If penetrated, the top of salt must be between 4,283' and 4,295'. Twenty-three sidewall cores were taken from 2,595'-4,286', all no show.

Completed: D&A 7/1975

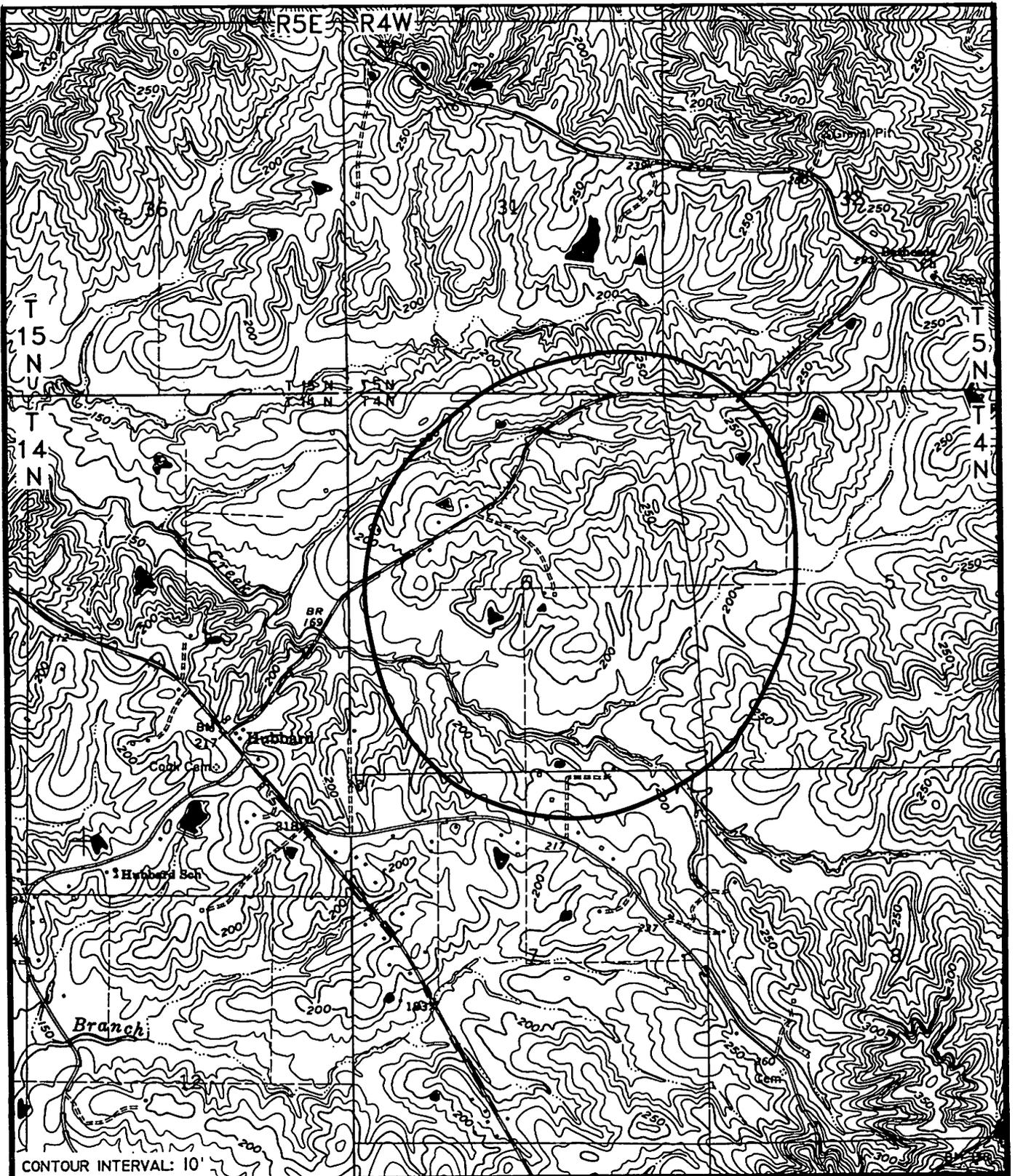
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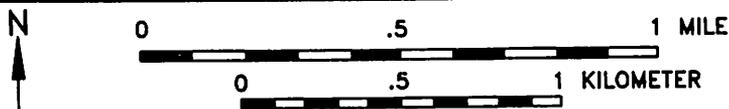
HUBBARD DOME

FIGURE 75



HUBBARD DOME

FIGURE 76



KINGS SALT DOME

GENERAL DATA

Location: Sections 26,27,28,39,40-T17N-R4E, Warren County, Mississippi

USGS topographic map(s): Redwood

Geophysical data: Gravity shows a localized minimum and a cap rock maximum.

Estimated size and shape: Circular to slightly oval with a north-northwest to south-southeast long axis orientation, 1.5 miles diameter.

Estimated base fresh water (10,000 ppm): -3,200'

Economic use: Abandoned minor gas production, Kings Field, on crest of dome

Shallowest known cap rock: 3,591' (Magnolia Petroleum Company No. 1 J. H. Hall)

Shallowest known salt: 3,845' (Magnolia Petroleum Company No. 1 J. H. Hall)

Oldest formation penetrated within one mile of dome: Upper Cretaceous Tuscaloosa Formation (Magnolia Petroleum Company No. 1 Feld Estate)

Nearest oil or gas production: The crest of this dome produced minor amounts of gas from the Middle Eocene Zilpha and Sparta formations. The nearest other production is at Oak Ridge Field which produces from the Lower Cretaceous Rodessa and Hosston formations and the Jurassic Cotton Valley Formation. Bovina Field produces from the Lower Cretaceous Rodessa Formation and the Jurassic Cotton Valley Formation. Bovina and Oak Ridge fields are four miles to the southeast and northeast, respectively.

DRILLING HISTORY

Discovery well: Magnolia Petroleum Company No. 1 J. H. Hall

API well number: 23-149-00039

Location: 467' S and 1,360' W of NE/corner of Section 39-T17N-R4E

Elevation: 130' GL (topographic map), 123' DF (log heading), 139' DF (scout ticket)

Total depth: 4,176'

Reported formation tops: (scout ticket)

Cockfield	480' (sample)
Wautubbee	870' (sample)
Sparta	1,040' (sample)
Tallahatta	2,030' (sample)
CR (Cane River?)	1,768' (log)
Tallahatta	1,973' (log)
Wilcox	2,195' (log)
cap rock	3,591' (core)
anhydrite	3,760' (driller)
salt	3,845' (driller)

Geophysical logs: Schlumberger electrical log 258'-3,603'

Comments: Cored 2,192'-202', recovered 3' shale and 2' oil saturated sand; 2,202'-12', no recovery; 2,212'-22', recovered 2' oil saturated sand; 2,222'-32', recovered 5' oil saturated sand; 2,232'-33', no recovery; 2,564'-? cored cap rock, unknown interval.

Drillstem test 2,187'-212', recovered 320' mud and heavy black oil; 2,185'-233', packer failed, recovered 600' drilling mud.

"Washed well 30 min [with] clear water bailed down to 900' encountered oil & fluid rose to 300' in 20 min shut well in 4 hrs when opened up flwd about 1 hr 30 min making approx 2 bbls heavy blk oil then started making wtr w/ the oil at rate of about 1 gal per min est 75% wtr & 25% oil let flow about 5 hrs & run bailer which found sd in csg at 2,068' bailed for 5 hrs bailing fresh wtr w/ some heavy oil let well flow for about 40 hrs flwg fresh wtr w/ est 1% oil Est well make 10 bbls of 16.8 gvty oil well flwd thru open 6" line off of blow-out preventer." (scout ticket)

Worked over by H. E. Richardson as the No. 2 Childs. Perforations 2,194'-204', treated with hot water, tested 6-8 barrels of 10°-14° gravity oil per day on pump. TA 5/66

Completed: D&A 11/1941

Additional drilling:

Well: Magnolia Petroleum Company No. 1 Feld Estate

API well number: 23-149-00036

Location: 446' FNL and 662' FWL of Section 3-T16N-R4E

Elevation: 328' DF

Total depth: 8,260'

Reported formation tops: (scout ticket)

Glendon	210' (sample)
Forest Hill	328' (sample)
Yazoo	446' (sample)
Moodys Branch	903'
Cockfield	927'
Cook Mountain	1,551'
Sparta	1,697'
Cane River	2,571'
Tallahatta	3,012'
Wilcox	3,385'
Midway	6,020'
chalk	6,826'
Eutaw	7,370'
1st Sand (Eutaw)	7,478'
Tuscaloosa	8,008'

Geophysical logs: Schlumberger electrical log 251'-8,262'

Comments: Cored 2,085'-95', recovered 8' 6" sand and shale; 2,095'-109', recovered 7' 6" sand and shale; 2,109'-17', recovered 7' sand and shale; 2,117'-27', recovered 12' sand and shale; 3,370'-80', recovered 8' sandy ch (chalk?); 3,380'-88', recovered 7' sandy ch (chalk?); 3,388'-98', recovered 2.5' water sand; 3,398'-408', recovered 3' water sand; 7,343'-48', recovered 4' sandy shale. Took 13 side-wall cores, unknown interval, all no show.

Completed: D&A 4/1945

Well: Magnolia Petroleum Company No. 1 Boy Scouts of America

API well number: 23-149-00034

Location: 1,400' FNL and 1,550' FEL of Section 4-T16N-R4E

Elevation: 185' DF

Total depth: 2,550'

Reported formation tops: (scout ticket)

Yazoo	300'
Moodys Branch	775'
Cockfield	820'
Wautubbee	1,409'
Sparta	1,573'
Cane River	2,540'

Geophysical logs: Schlumberger 15'-2,548'

Comments: core test

Completed: D&A 2/1942

Well: C. Porter Johnson et al. No. 1 Fannie Coley

API well number: 23-149-00030

Location: 620' E and 274' N of SW/corner of NW/4 of Section 26-T17N-R4E

Elevation: 265' GL, 274' DF

Total depth: 4,939'

Reported formation tops: (scout ticket)

Moodys Branch	643'
Claiborne	667'
Cook Mountain	1,296'
Sparta	1,478'
Zilpha	2,320'
Winona	2,600'
Tallahatta	2,810'
Wilcox	2,973'
Midway	4,770'(?)

Geophysical logs: Schlumberger electrical log 290'-4,938'

Comments: Cored 1,370'-90', recovered 5' sand with slight show of gas and oil, 4' lignitic shale and 5' sand with slight stain and fluorescence. Took 18 sidewall cores from 2,275'-3,990', all no show.

Completed: D&A 1/1949

Well: Magnolia Petroleum Company No. 3 Ruth B. Pidgeon

API well number: 23-149-00045

Location: 330' N and 330' E of SE/corner of Section 26-T17N-R4E Also shown on some Mississippi State Oil and Gas Board forms as being located 330' N and 330' E of SW/corner of section 27-T17N-R4E, which location would closely match the ground elevation.

Elevation: 131' DF

Total depth: 2,520'

Reported formation tops: (scout ticket)

Moodys Branch	484'
Cockfield	498'
Cook Mountain	1,038'
Sparta	1,180'
Cane River	1,700'
Tallahatta	2,194'
Wilcox	2,510'

Geophysical logs: Schlumberger electrical log 368'-2,520'

Comments: Cored 486'-94', recovered 6' 6" chalky shale; 494'-504', recovered 6' brown shaly sand; 583'-88', recovered 2' lignitic sand; 708'-18', recovered 1' shaly sand; 820'-28', recovered 6' sand; 1,019'-29', recovered 10' lignitic shale; 1,070'-80', recovered 9'; 1,080'-90', recovered

10' shaly sand; 1,215'-25', recovered 1.5' sand; 1,325'-35', recovered 1' sand; 1,435'-40', recovered 3.5' sand; 1,530'-35', recovered 2' sand; 1,567'-73', recovered 3' sand; 1,653'-59', recovered 6' gray shaly sand; 1,659'-69', recovered 10' shaly sand; 1,689'-94', recovered 5' brown sandy shale; 1,719'-23', recovered 4' gray sand; 1,760'-65', recovered 1' gray sand and 4' sandy shale; 1,781'-86', recovered 5' gray sand; 1,814'-22', recovered 8' gray sand; 1,868'-71', recovered 3' brown shale with sand streaks having a slight gas show; 1,871'-73', no recovery; 1,873'-83', no recovery; 1,883'-88', recovered 3' hard brown shale with sand streaks having a slight oil and gas show; 1,888'-98', recovered 5' hard brown shale; 1,898'-903', recovered 2.5' hard brown shale; 1,903'-908' recovered 5' limey shale with gas odor; 1,908'-18', recovered 4' firm, marly shale with show of gas; 1,918'-24', recovered 3' brown shale; 1,924'-34', recovered 7' hard, brown shale, gas show; 1,934'-44', recovered 6' hard, brown shale; 1,944'-49', recovered 5' hard, brown shale with sand streaks having faint gas odor; 1,949'-54', recovered 5' hard, brown shale with sand streaks having faint gas odor; 1,965'-76', recovered 10' fine sand with gas odor; 1,975'-85', recovered 4' brown, sandy shale with streaks of fine sand, faint gas show; 1,985'-95', recovered 10' fine sand with shale streaks and faint gas show; 1,995'-2,015' (2 cores), recovered 14' brown, sandy shale; 2,015'-41' (3 cores), recovered 10'8" brown shale; 2,081'-86', recovered 5' brown shale; 2,127'-31', recovered 2.5' brown shale; 2,156'-61', recovered 5' greenish-gray shale; 2,184'-90', recovered 6' gray chalk and green shale; 2,225'-30', recovered 5' green chalk and shale; 2,245'-55', recovered 10' green, chalky shale with faint gas show; 2,320'-25', recovered 5' green, limey shale; 2,362'-66', recovered 4' hard, green, sandy shale; 2,371'-80', recovered 9' hard, green, shaly sand with faint gas show; 2,380'-90', recovered 10' hard, limey, green shale; 2,390'-2,400', recovered 4.5' hard, green, sandy shale; 2,409'-15', recovered 6' greenish-brown, sandy shale; 2,415'-20', recovered 5' hard, limey shale; 2,432'-37', recovered 3' hard, shaly lime; 2,457'-62', recovered 2' hard, lignitic shale; 2,509'-14', recovered 1' sand with streaks of lignitic shale; 2,514'-19', recovered 1' white sand.

Drillstem test 1,963'-75', recovered 360' mud and water and faint show gas.

Completed: D&A 5/1946

Well: Magnolia Petroleum Company No. 1 Ruth B. Pidgeon (core test)

API well number: 23-149-00042

Location: 1,080' FEL and 1,570' FSL of Section 27-T17N-R4E

Elevation: 122' ? (Mississippi State Oil and Gas Board well file) 127' DF

Total depth: 1,660'

Reported formation tops: (scout ticket)

Moodys Branch	410'(sample)
Sparta	1,220'(sample)

Geophysical logs:

Comments: Core hole. At total depth 1,660', the well blew

out while coming out of the hole on 4/3/1942. The well blew about 45 minutes and then caught fire and bridged over. The well was junked and abandoned.

Completed: 4/1942

Well: Magnolia Petroleum Company No. 1 Ruth B. Pidgeon

API well number: 23-149-00043

Location: 990' N and 330' W of SE/corner of Section 27-T17N-R4E

Elevation: 120' GL (topographic map)

Total depth: 2,401'

Reported formation tops: (scout ticket)

Wautubbee	1,050'
Sparta	1,157'
Tallahatta	2,153'
Wilcox	2,376'

Geophysical logs: Schlumberger 251'-2,402'

Comments: Cored 2,393'-401', recovered 4' soft sand saturated with heavy oil. Drillstem test 2,380'-401', recovered 270' oil cut mud and 1,260' mud and slightly brackish water with spots of heavy oil in 10 minutes.

Completed: D&A 5/1942

Well: Magnolia Petroleum Company No. 2 Ruth B. Pidgeon

API well number: 23-149-00044

Location: 1,516' N and 479' E of SW/corner of SE/4 of SE/4 of Section 27-T17N-R4E

Elevation: 127' DF

Total depth: 2,546'

Reported formation tops: (scout ticket)

Moodys Branch	428'
Cockfield	460'
Cook Mountain	1,095'
Sparta	1,177'
Cane River	1,948'
Wilcox	2,512'

Geophysical logs: Schlumberger electrical log 1,459'-2,546'

Comments: Cored 436'-56', recovered 20' soft, shaly sand; 1,120'-28', recovered 6' shale, and 2' sandy shale; 1,132'-42', recovered 2' shale; 1,142'-52', recovered 6' shale; 1,166'-74', recovered 1' lime; 1,184'-94', recovered 10.5' sand, and 4' sandy shale (as reported); 1,235'-45', recovered 1' sandy lime and 7' sand; 1,270'-80', recovered 1' sandy lime and 5' sand; 1,419'-29', recovered 10' sand; 1,445'-49', recovered 4.5' shaly lime and 3.5' asphaltic sand; 1,450'-55', recovered 5' sand and shale with oil show; 1,455'-57', recovered 2' sand and shale with oil show; 1,459'-61', recovered 1' sand with slight show of brown oil; 1,461'-64', recovered 3' sand and shale with slight show of brown oil; 1,464'-69', recovered 2' sand with shale streaks and oil stain; 1,469'-74', recovered 6" shaly sand; 1,474'-77', no recovery; 1,477'-82', recovered 2' sand with oil stain; 1,482'-87', recovered 1' sand with oil stain and 1' shaly sand; 1,487'-92', recovered 6" sand; 1,492'-97', recovered 4' sand; 1,577'-80', recovered 3' sand; 1,595'-98', recovered 2.5' sandy shale and shaly sand; 1,598'-601', recovered 1' shaly sand; 1,638'-43', recovered 5' sand; 1,643'-50', recovered 1' sand and 2' sandy lime; 1,650'-54',

recovered 1' sand and lime; 1,654'-60', recovered 5' sand; 1,812'-17', recovered 5' shaly sand; 1,837'-43', recovered 6' shale; 1,897'-904', recovered 3' shaly sand and 4' sand; 1,904'-16', recovered 10' brown shale with sand streaks and 2' sand; 1,916'-21', recovered 1' sand with lime streaks; 1,921'-26', recovered 4' sand; 1,936'-41', recovered 5' sand; 1,999'-2,009', recovered 8' sandy shale; 2,042'-48', recovered 6' brown sand with good oil odor; 2,048'-53', recovered 2.5' brown shale with sand streaks and show of heavy oil; 2,053'-58', recovered 5' sand; 2,058'-68', recovered 7.5' sand and 2.5' gray, sandy shale; 2,068'-78', recovered 10' sandy shale; 2,089'-99', recovered 4' brown sandy shale; 2,099'-104', recovered 2' shale; 2,130'-35', recovered 3' shale; 2,145'-50', recovered 3' shale; 2,170'-80', recovered 10' shale; 2,205'-14', recovered 3' shale; 2,353'-58', recovered 2' green shale; 2,419'-21', recovered 2' shale with anhydrite streaks; 2,437'-40', recovered 2.5' green, shaly marl; 2,449'-54', recovered 4.5' green, shaly marl with heavy oil show in bottom 1'; 2,454'-61', recovered 5' green, shaly marl with show of heavy oil; 2,461'-70', recovered 2' green, shaly lime; 2,470'-75', recovered 4' green, shaly lime with heavy oil show; 2,475'-85', recovered 10' green, shaly lime with heavy oil show; 2,485'-95', recovered 1.5' green, shaly lime with heavy oil show; 2,495'-99', recovered 1' limey shale; 2,511'-12', recovered 1' green shale; 2,515'-26', recovered 3' sand and shale; 2,526'-36', recovered 1' sand and shale; 2,536'-46', recovered 6' sand and shale.

Drillstem test 1,445'-49', recovered 10' mud with strong oil odor and taste; 1,445'-49', flowed dry gas; 1,437'-64', in 11 hours flowed dry gas, estimated 1,000,000 CFGPD, tubing pressure 450#;

1,472'-77', flowed dry gas; 2,040'-48' tubing pressure 750#, flowed dry gas.

Perforated casing 2,036'-42'. Drillstem test with packer at 2,020', open 45 minutes flowed dry gas. Estimated 2,000,000 CFPD. Estimated open flow 7,200 MCFGPD. Kings Field discovery well.

Completed: 3/1946

Well: Magnolia Petroleum Company No. 1 S. D. Finlay

API well number: 23-149-00038

Location: 330' N and 330' W of SE/corner of SW/4 of SE/4 of Section 27-T17N-R4E

Elevation: 197' DF

Total depth: 2,433'

Reported formation tops: (scout ticket)

Moodys Branch	597'
Cook Mountain	1,127'
Sparta	1,323'
Cane River	1,840'
Winona	2,075'
Wilcox	2,387'
(Dixie Geological Service)	
Moodys Branch	583'
Cf (Cockfield)	622'
175' fault	850' +/-

Cook Mountain	1,134'
Cam (Camerina)	1,298'
Sp (Sparta)	1,323'
Zil (Zilpha)	1,840'
gas sd.	1,912'-29'
Win (Winona)	2,050'
Wilcox	2,387'

Geophysical logs: Schlumberger 380'-2,404'

Comments: Cored 830'-840', recovered 10' shale; 908'-18', recovered 10' shaly sand; 918'-23', recovered 1' sand; 923'-27', recovered 4' sand; 965'-70' recovered 2" sand; 1,239'-45', recovered 8' (as reported) sand and lime; 1,247'-57', recovered 10' sand and shale; 1,257'-72', recovered 12' shale with sand streaks; 1,290'-97' recovered 1' sand and 6' shale; 1,297'-1,312', recovered 15' sandy shale and lime; 1,312'-20', recovered 8' sandy shale and lime; 1,320'-23', recovered 3' sandy shale; 1,323'-28', recovered 5' sand; 1,328'-30', recovered 1' sand; 1,370'-75', recovered 3' sand and shale; 1,395'-1,400', recovered 5' sand; 1,400'-05', recovered 4' sand and 1' lime; 1,445'-50', recovered 5' sand; 1,513'-18', recovered 1.5' sand; 1,563'-68', recovered 2.5' sand; 1,573'-78', recovered 1' sand; 1,618'-23', recovered 1' sand; 1,638'-43', recovered 1' sand; 1,653'-58', recovered 2.5' sand; 1,691'-96', recovered 5' black sand; 1,701'-06', recovered 4' brown sand; 1,777'-82', recovered 5' sand; 1,822'-27', recovered 2.5' sand; 1,910'-19', recovered 5' sand with some stain; 1,919'-24', recovered 5' shaly sand with stain; 1,924'-29', recovered 2' sand with good stain and 3' shaly sand; 1,929'-34' recovered 5' brown sandy shale; 1,934'-44', no recovery; 1,944'-49', no recovery; 1,949'-54', recovered unknown amount brown shale; 1,963'-69', recovered 3' brown shale; 1,995'-99', recovered 4' brown shale; 2,016'-20', recovered 1' brown shale; 2,022'-28', recovered 1.5' brown shale; 2,028'-35', recovered 5' brown shale; 2,039'-44', recovered 5' brown and gray shale; 2,044'-54', recovered 10' shale; 2,054'-60', recovered 6' gray shale; 2,075'-85', recovered 9' gray chalk with good to spotted oil stain; 2,085'-90', recovered 5' gray chalk with spotted to dead oil stain; 2,090'-2,100', recovered 8' gray chalk; 2,100'-10', recovered 10' gray chalk; 2,110'-20', recovered 4" gray chalk with spotted oil stain; 2,120'-25', recovered 6' gray, chalky shale; 2,125'-30', recovered 5' green shale; 2,130'-35', no recovery; 2,135'-41', recovered 5' limey shale; 2,141'-51', recovered 10' limey shale; 2,151'-58', recovered 7' limey shale; 2,158'-61', recovered 3' limey shale with sand streaks; 2,163'-68', recovered 5' shale; 2,193'-98', recovered 5' shaly lime with show of heavy dead oil; 2,198'-203', recovered 1.5' shaly lime with show of dead oil; 2,203'-06', recovered 1.5' green sand with dead oil stain; 2,206'-11', recovered 2' green, limey sand; 2,211'-13', recovered 6" green, sandy lime with faint oil show; 2,213'-18', recovered 2.5' green, shaly, sandy lime; 2,218'-25', recovered 6' green, shaly, sandy lime; 2,225'-34', recovered 5' sandy lime and 2' sandy shale with faint stain and odor; 2,234'-39', recovered 3.5" sandy, limey shale with spotted stain and slight odor, and 6" sandy lime bleeding oil; 2,239'-45', recovered 6' sandy lime with faint stain and odor; 2,245'-50', recovered 2' shale; 2,250'-52', recovered 1.5' green, sandy lime with dead oil in spots;

2,252'-57', no recovery; 2,257'-59', recovered 2' lime; 2,259'-64', recovered 5' sandy lime; 2,264'-71', recovered 7' shale; 2,271'-76', recovered 3' shaly lime; 2,276'-81', no recovery; 2,281'-83', recovered 2' lime; 2,283'-92', recovered 5' limestone; 2,293'-300', recovered 1' limestone; 2,300'-01', recovered 1' limestone; 2,302'-06', recovered 3' shaly limestone with show of heavy black oil; 2,306'-13', recovered 7' sandy lime; 2,313'-23', recovered 8' sandy lime with fair show of heavy black oil; 2,323'-33', recovered 10' shaly lime; 2,336'-56' (2 cores), recovered 20' shaly lime; 2,356'-86' (3 cores), recovered 17' green, sandy shale; 2,386'-93', no recovery; 2,394'-97', no recovery; 2,398'-400', recovered 1' sand and shale; 2,400'-02', recovered 6" sand with gas odor.

Took 42 sidewall cores from 598'-2,399', all no show.

Attempted 2 drillstem tests 904'-18', would not hold packer seat. Drillstem test 908'-18', recovered 600' mud, water and sand with slight gas show; 1,315'-30', recovered 300' mud and 800' fresh water with slight gas show; 1,910'-19' flowed dry gas; 2,137'-61', recovered 40' mud with no show; 2,375'-402', recovered 1,920' mud and fresh water with gas show. Drillstem tested perforations 2,386'-90', recovered 2,100' brackish water with slight show of gas. Drillstem tested perforations 2,193'-206' and 2,231'-45', recovered 10' mud. Drillstem tested perforations 2,075'-120', recovered 40' mud, acidized and retested recovering acid and water.

Perforated 1,912'-20', calculated open flow 11,650,000 CFGPD, 1/4" choke, 540# TP, 547# CP; tested 763,834 CFGPD, 1 hour test, 3/16" choke, 556# TP, 557# CP; tested 383,774 CFGPD, 1 hour test, 1/8" choke, 563# TP, 583# CP. **Completed:** 5/1946

Well: Timothy E. Prine No. 1 Blake

API well number: 23-149-20002

Location: 405' N and 330' E of SW/cor of (Lot 1) SW/4 of NE/4 of Section 27-T17N-R4E, also given on scout ticket as 2,235' FNL and 990' FEL of section

Elevation: 200' GL (topographic map)

Total depth: 2,214'

Reported formation tops: (scout ticket)

Zilpha 2,179'

gas sand 2,194'

Geophysical logs: Schlumberger Induction-Electrical Log 260'-2,213'

Comments: Took 6 sidewall cores, 4 of which analyzed wet at 2,195', 2,197', 2,198' and 2,207'.

Completed: D&A 3/1967

Well: Oddee Smith No. 1 Ruth Pidgeon

API well number: 23-149-20001

Location: 1,241' N and 737' W of SE/corner of Section 27-T17N-R4E

Elevation: 121' GL, 125' DF, 126' KB

Total depth: 2,104'

Reported formation tops: (scout ticket)

Zilpha gas sand 2,033'-46'

Geophysical logs: Schlumberger Induction-Electrical Log 299'-2,103'

Comments: Took 23 sidewall cores from 1,474'-2,063', recovering gas sand show from 2,035'-39'. Perforated 2,035'-39' and tested 1,080 MCFGPD (dry), 15/64" choke, FTP 730#, SITP 825#.

Completed: 3/1967

Well: Timothy E. Prine No. 1 Blake

API well number: 23-149-20003

Location: 615' FEL and 1,240' FSL of Section 28-T17N-R4E

Elevation: 120' GL, 124' DF

Total depth: 2,455'

Reported formation tops:

Moodys Branch	646'
Cook Mountain	1,290'
Sparta	1,458'

Geophysical logs: Moseley Surveys Induction-Electrical Log 500'-2,453'

Comments:

Completed: D&A 2/1968

Well: Benson & Head-H. E. Richardson No. 1 McChilds

API well number: 23-149-00007

Location: 465' FNL and 1,260' FEL of Section 39-T17N-R4E

Elevation: 121' DF

Total depth: 3,028'

Reported formation tops: (scout ticket)

Moodys Branch	466'
Cockfield	500'
Cook Mountain	1,010'
200' fault	1,020'
Sparta	1,030'
Zilpha	1,755'
gas sand	1,860'-83'
Wilcox	2,210'
oil sand	2,210'-50' (39' net)

Geophysical logs: Schlumberger Induction-Electrical Log 341'-3,027'

Comments: Took 44 sidewall cores, had show gas 2,210'-48'. Perforations 2,216'-26', tested 2.5 BOPD, 240 BWPD, gravity 15°-6°. Completed 4/1964. Reworked 8/1965, perforations 1,865'-70', tested 1,773 MCFGPD, 10 BWPD, 9/64" choke, 710# TP, 800# CP.

Completed: 4/1964

Well: M. L. Deckard No. 1 Childs

API well number: 23-149-20004

Location: 660' FNL and 330' FEL of NW/4 of NE/4 of Section 39-T17N-R4E

Elevation: 160' GL (topographic map)

Total depth: 2,443'

Reported formation tops: (scout ticket)

Sparta	1,250'
Wilcox	2,265'

Geophysical logs: Dresser Atlas Induction Electrolog 1,200'-2,439'

Comments:

Completed: D&A 7/1969

Well: Magnolia Petroleum Company No. 1 E. W. Barnes (Core Test)

API well number: 23-149-00033

Location: 1,050' FNL and 1,100' FWL of Section 39-T17N-R4E

Elevation: 300' DF

Total depth: 2,505'

Reported formation tops: (scout ticket)

Moodys Branch	678'
Cockfield	740'
Wautubbee	1,352'
Sparta	1,500'

Geophysical logs: Schlumberger 295'-2,494'

Comments: Core test

Completed: D&A 3/1942

Well: Magnolia Petroleum Company No. 2 J. H. Hall

API well number: 23-149-00040

Location: 990' W and 330' N of SE/corner of NE/4 of Section 39-T17N-R4E

Elevation: 170' GL (topographic map), 145' DF (log heading), 176' DF? (scout ticket)

Total depth: 3,856'

Reported formation tops: (scout ticket)

Cane River	1,908'
Tallahatta	2,220'
Wilcox	2,318'
cap rock	3,818'

Geophysical logs: Schlumberger 251'-3,833'

Comments: Cored 2,351'-71', no recovery; 2,371'-91', recovered 4" brown lignite; 3,826'-28', recovered 1' cap rock. Took sidewall cores 2,322', 2,324', 2,340', 2,347', 2,358', 2,368', 2,374', recovered sand. Drillstem test 3,821'-26', recovered 240' mud.

Completed: D&A 12/1941

Well: Texlan Oil Company, Inc. No. 2 Juanita Childs and Loomis Giles

API well number: 23-149-20009

Location: 18' FNL and 1,650' FEL of Section 39-T17N-R4E

Elevation: 186' GL, 194' DF, 195' KB

Total depth: 1,900'

Reported formation tops: (scout ticket)

Sparta	1,891'
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Geophysical logs: Schlumberger Induction-Electrical Log 333'-1,898'

Comments: Set casing to 1,879'. Open hole completed from 1,879'-1,900', flowed 185 MCFGPD, 18/64" choke, TP 530# (scout ticket). The Mississippi State Oil and Gas Board well file gives the following completion: 2 7/8" tubing set to 1,899.5', producing interval 1,892'-1,900', flowed 210 MCFGPD, 8/64" choke, 590# TP. The plugging report, dated November 8, 1984, gives the perforations as 1,803'-07' and 1,869'-1,900'.

Completed: 12/1976

Well: Magnolia Petroleum Company No. 1 Kaufman (Feld Estate) (core test)

API well number: 23-149-00037

Location: 510' S and 525' E of NW/corner of Section 40-T17N-R4E

Elevation: 178' DF

Total depth: 2,512'

Reported formation tops: (scout ticket)

Cockfield 393'

Wautubbee 927'

Sparta 1,108'

Wilcox 2,345'

Geophysical logs: Schlumberger 302'-2,502'

Comments:

Completed: D&A 3/1942

PRODUCTION

Cumulative production to abandonment in 1982

Gas (MCF)

Kings Dome Field

Sparta gas pool 30,238

Zilpha gas pool 69,300

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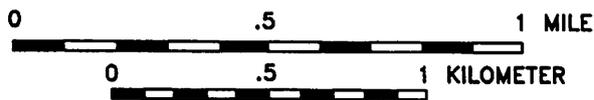
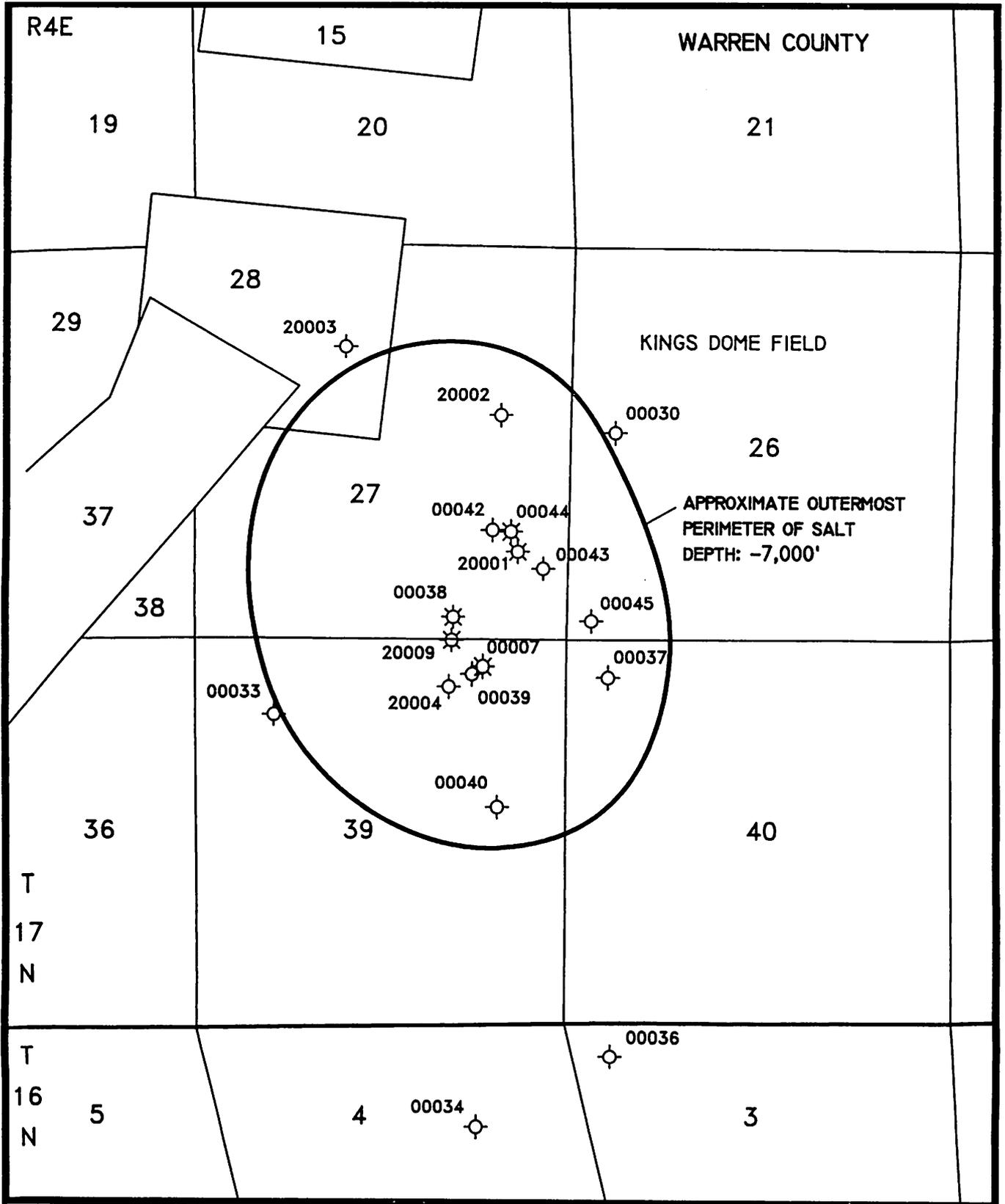
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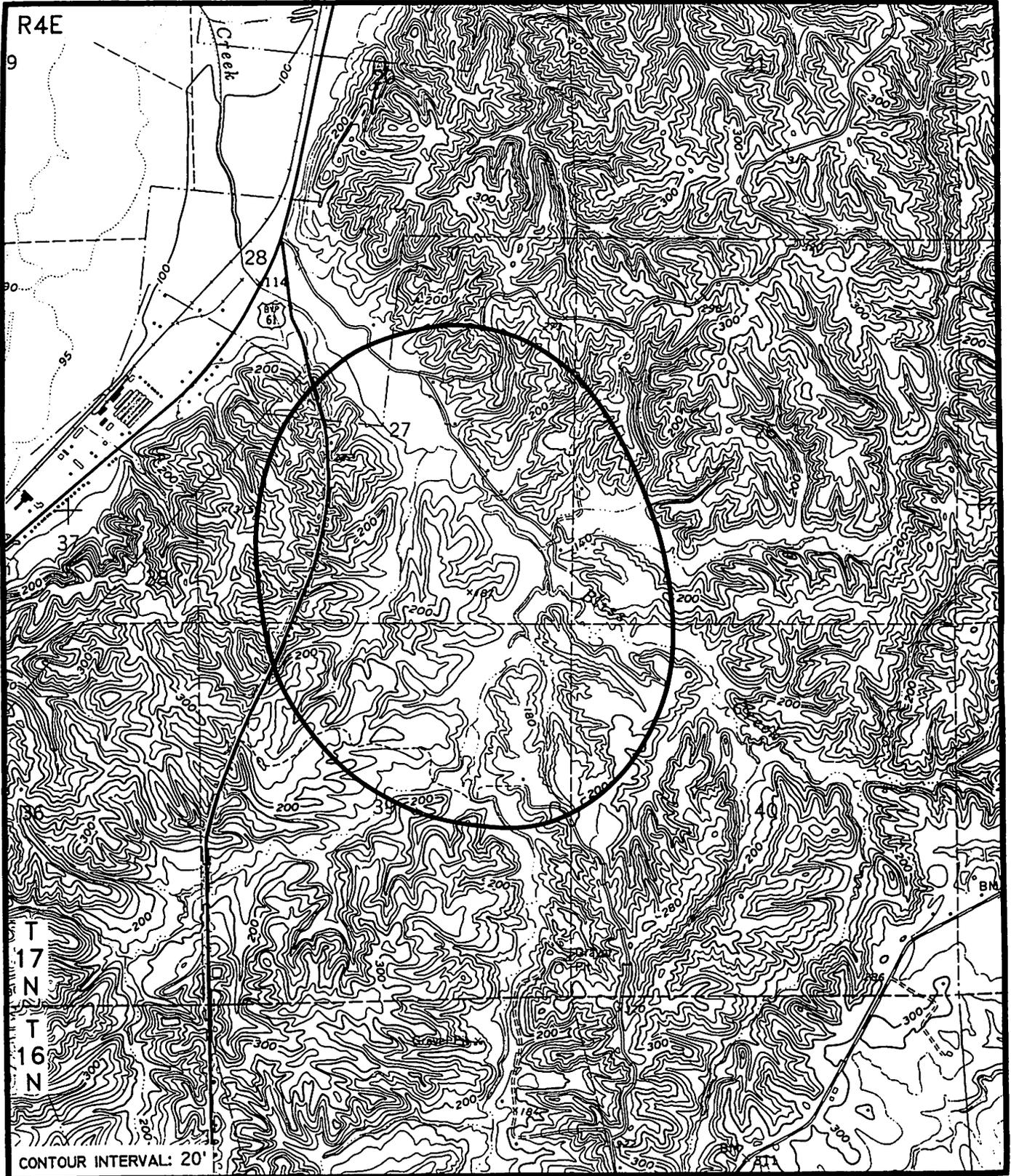
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KINGS DOME
FIGURE 77



KINGS DOME

FIGURE 78

KOLA SALT DOME

GENERAL DATA

Location: Sections 20,21,22,27,28,29-T8N-R15W, Covington County, Mississippi

USGS topographic map(s): Collins, Hot Coffee, Seminary, Williamsburg

Geophysical data: Gravity shows a minimum covering most of a township with a small cap rock maximum.

Estimated size and shape: Approximately circular, 1.5 miles diameter

Estimated base fresh water (10,000 ppm): -2,600'

Economic use: None to date

Shallowest known cap rock: 2,228' (Humble Oil & Refining Company No. 1 Zula L. Daughtery)

Shallowest known salt: 3,041' (Humble Oil & Refining Company No. 1 Zula L. Daughtery)

Oldest formation penetrated within one mile of dome: Upper Jurassic Cotton Valley Formation (Oryx Energy Company No. 1-A Carleton Welch)

Nearest oil or gas production: Collins Field, 1.5 miles east, produces from the Lower Cretaceous Paluxy, Mooringsport, Rodessa, Sligo, and Hosston formations and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Humble Oil & Refining Company No. 1 Zula L. Daughtery

API well number: 23-031-00018

Location: 2,130' FNL and 2,966' FEL of Section 28-T8N-R15W

Elevation: 386' DF

Total depth: 3,117'

Reported formation tops: (scout ticket)

Vicksburg	757'
Yazoo	847'
Moodys Branch	1,037'
Cockfield	1,057'
Cook Mountain	1,370'
Camerina	1,547'
Sparta	1,660'
Wilcox	1,646' (core)
cap rock	2,228' (core)
anhydrite	2,328' (core)
salt	3,041' (samples)

Geophysical logs: Schlumberger electrical log 50'-2,902'

Comments: Drillstem test from 2,323'-30' recovered 120' mud and 480' fresh water with sulphur odor and spots of dead oil. Humble attempted to complete this well in the cap rock from perforations 2,238'-58' after finding shows of low gravity oil. Testing details are not available.

Completed: D&A 3/1948

Additional drilling:

Well: Urban B. Hughes & Smith Co. Oil Company No. 1 J. A. Pickering

API well number: 23-031-00016

Location: 362' FSL and 368' FEL of Section 22-T8N-R15W

Elevation: 402' GL (topographic map), 412' DF

Total depth: 5,017'

Reported formation tops:

Jackson	1,060'
Moodys Branch	1,315'
Wilcox	2,670'

Geophysical logs: Schlumberger Electrical Log 441'-5,017'

Comments: "Took 10 sidewall cores in Wilcox, recovered sand, no show. Took 12 sidewall cores 2,673'-4,982', recovered sand, no show." (scout ticket)

Completed: D&A 12/1952

Well: Covington Oil No. 1 Bank of Seminary

API well number: 23-031-00007

Location: 536' FWL and 150' FNL of Section 26-T8N-R15W

Elevation: 426'

Total depth: 8,002'

Reported formation tops: (scout ticket)

The scout ticket shows two sets of tops; they are presented here as reported on the card:

Catahoula	220'
fossil zone	300'
Heterostegina	510'
Vicksburg	946'
Jackson	1,120'
1st Operculina	1,360'
Yegua	1,383'
Lisbon	1,549'
Cane River	2,320'
1st Cane River marl	2,400'
Wilcox	2,747'
Midway(?)	5,679'
Selma	6,363'
Eutaw	7,860'

(By Gulf)

Vicksburg	840'-60'
Marianna	946'
Jackson	1,120'
Txt. Hockleyensis	1,140'
Moodys Branch	1,360'
Yegua	1,383'
Ceratobulimina	1,640'
(Cook Mountain)	

Minden	1,680'
Sparta	1,808'
Cane River	2,400'
Wilcox	2,672'
Ripley	6,383
Selma	6,528'

(By Sun-Waters)

Geophysical logs:

Comments: Some base maps show a Covington Oil Company No. 1-A Bank of Seminary drilled to total depth 8,002', and a Covington Oil Company No. 1 Bank of Seminary drilled to 504'. Mississippi State Oil and Gas Board records show no 1-A well. Cored 137 intervals from 504'-7,947'.

Completed: D&A 10/1933

Well: Oryx Energy Company No. 1 Carleton Welch

API well number: 23-031-20118

Location: 700' FSL and 2,435' FWL of Section 28-T8N-R15W

Elevation: 341' GL, 363' DF, 364' KB

Total depth: 5,500'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

salt	4,279'
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Geophysical logs: Schlumberger Dual Induction/SFL Gamma Ray 88'-5,462'

Comments: 13 3/8" surface casing parted at 3,935'. Total depth in salt.

Completed: J&A 1/1991

Well: Oryx Energy Company No. 1-A Carleton Welch

API well number: 23-031-20129

Location: 709' FSL and 2,484' FWL of Section 28-T8N-R15W

Elevation: 341' GL, 363' DF, 364' KB

Total depth: 18,776'

Reported formation tops: (In order as listed on the Mississippi State Oil and Gas Board well completion report)

salt top	4,279'
salt base	6,599'
chalk	4,814'
base chalk	7,730'
Lower Tuscaloosa	8,863'
Paluxy	11,923'
Mooringsport	13,445'
base Ferry Lake	14,289'
Sligo	14,993'
Hosston	15,379'
Cotton Valley	18,165'

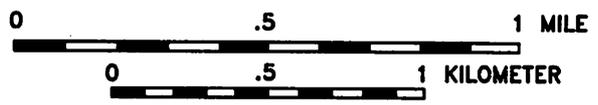
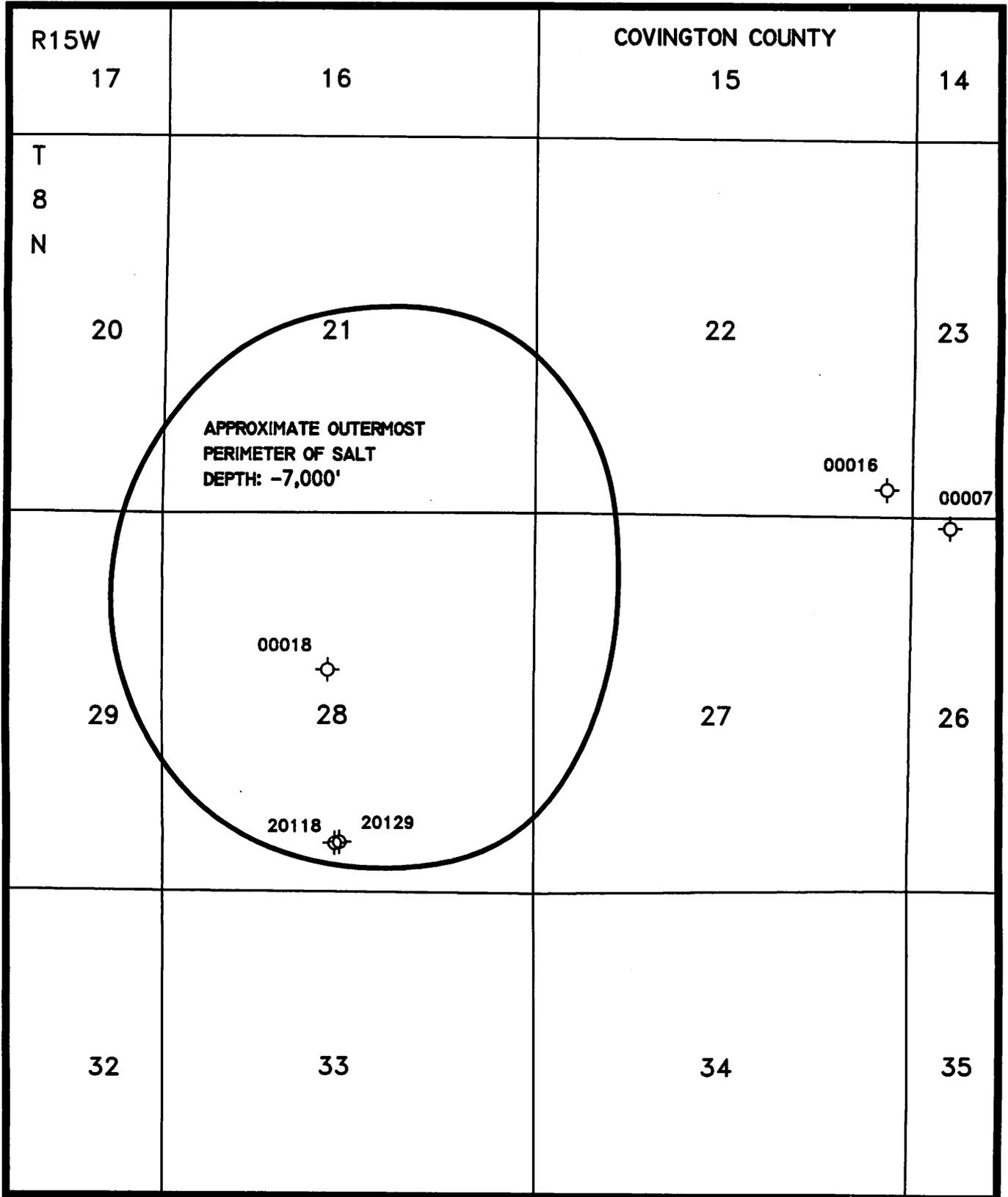
Geophysical logs: Schlumberger Dual Induction Laterolog-MSFL 62'-18,766', Compensated Neutron Litho-Density w/ Hi Res 13,400'-18,771', Dual Induction Laterolog-MSFL-LSS Caliper-Gamma Ray 62'-18,766'

Comments: Acidized perforations 18,624'-29', 18,634'-47', 18,660'-91', 18,707'-09', and 18,714'-18' with 5,500 gallons HCL. Acidized perforations 18,053'-57', 18,113'-26', 18,287'-92', and 18,320'-24' with 3,000 gallons HCL. No other testing information given on scout ticket.

Completed: D&A 1/1992

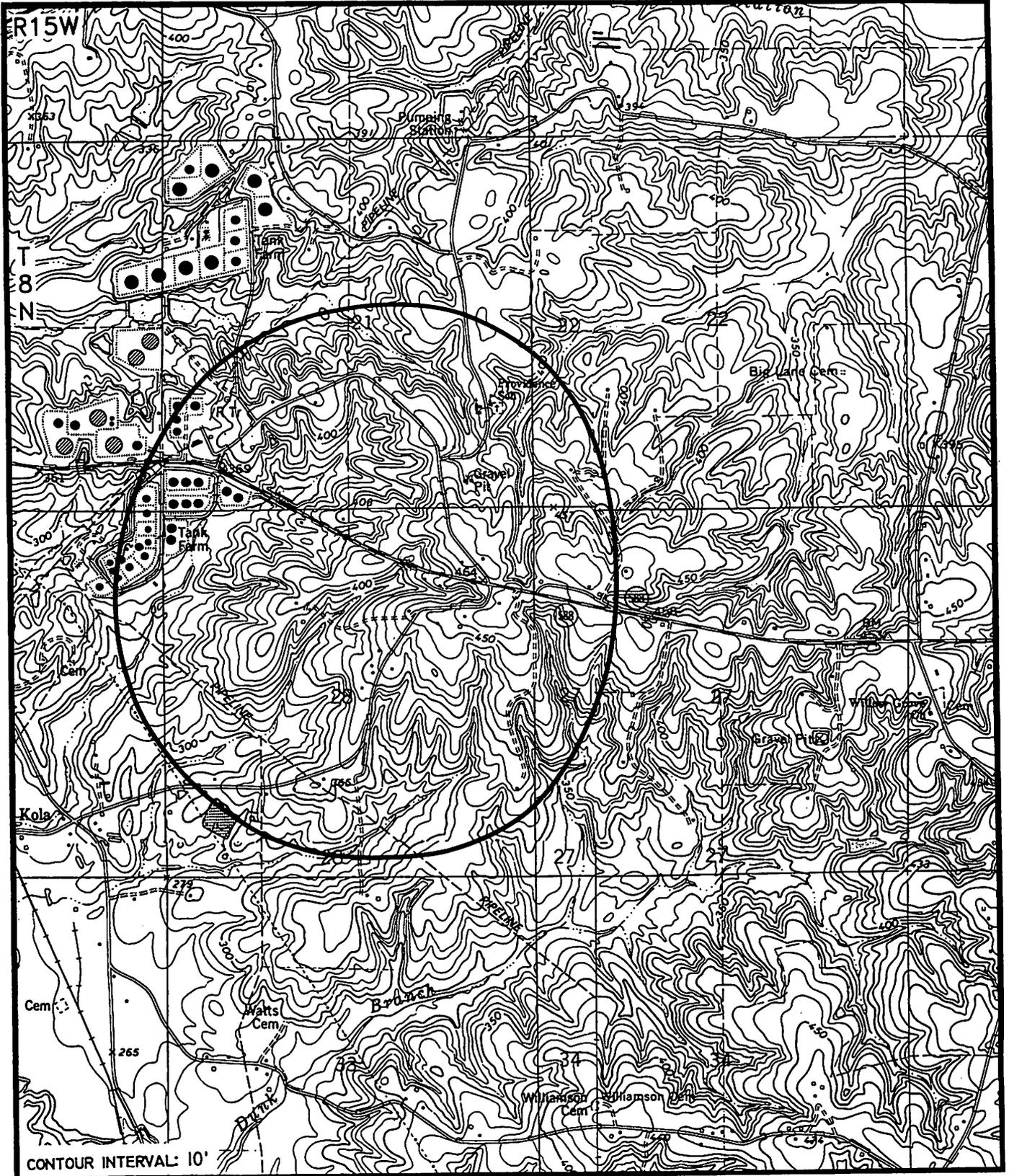
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KOLA DOME

FIGURE 79



KOLA DOME

FIGURE 80

LAMPTON SALT DOME (KENO)**GENERAL DATA**

Location: Sections 8,16,17,20,21,22,27,28,29,34-T3N-R17W, Marion County, Mississippi

USGS topographic map(s): Pinebur, Columbia South

Geophysical data: The dome is located on a very large, well developed gravity minimum covering over a township. Mellen reported the presence of a small cap rock maximum in Section 21.

Estimated size and shape: The dome is elongate in a north-west-southeast direction. The long axis at 2,000' is 2 miles long and the short axis is 1 mile wide. The dome at this level covers about 1,100 acres.

Estimated base fresh water (10,000 ppm): -1,700'

Economic use: None to date

Shallowest known cap rock: 1,305' (Exploro Corporation No. 3 E. H. Bradshaw)

Shallowest known salt: 1,647' (Exploro Corporation No. 6 E. H. Bradshaw).

Oldest formation penetrated within one mile of dome: Upper Cretaceous Tuscaloosa Formation (Gulf Refining Company No. 3 E. H. Bradshaw).

Nearest oil or gas production: Hub Field, 5 miles to the southwest, produces from the Upper Cretaceous Eutaw and Tuscaloosa formations and the Lower Cretaceous Dantzler, Washita-Fredericksburg, Paluxy, Mooringsport and James Limestone formations.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 E. H. Bradshaw

API well number: 23-091-00054

Location: 660' S and 660' W of NE/corner of Section 20-T3N-R17W (map no. 1)

Elevation: 332' GL, 336' est. DF (log heading)

Total depth: 1,627'

Reported formation tops: (scout ticket)

cap rock 1,365'

anhydrite 1,425' +/-

Geophysical logs: Schlumberger electrical log 157'-1,520'

Comments: "Gulf spent seismic time on Lampton." (Mellen)

Completed: D&A 6/1943

Additional drilling:

Well: Exploro Corporation No. 4 E. H. Bradshaw

API well number: 23-091-00042

Location: 1,257' FSL and 81' FEL of Section 17-T3N-R17W (map no. 2)

Elevation: 317' GL

Total depth: 1,412'

Reported formation tops: (drillers log)

cap rock 1,375'

Geophysical logs: "Logged to 1,342', though drilled to 1,412'." (Mellen)

Comments: Drill string stuck in a cavity. Sulphur test

Completed: J&A 8/1944

Well: Exploro Corporation No. 1 T. J. Hurst

API well number: 23-091-00048

Location: 300' N and 100' W of SE/corner of NE/4 of SE/4 of Section 17-T3N-R17W (map no. 3)

Elevation: 300' GL

Total depth: 1,497'

Reported formation tops: (drillers log)

cap rock 1,365'

anhydrite 1,394'

Geophysical logs: "Logged to 1,368'." (Mellen)

Comments: Sulphur test

Completed: D&A 9/1944

Well: Exploro Corporation No. 1 E. H. Bradshaw

API well number: 23-091-00262

Location: 902' FNL and 3,280' FEL of Section 20-T3N-R17W (map no. 4)

Elevation: 333' GL

Total depth: 3,000'

Reported formation tops: No dome material reported on drillers log.

Geophysical logs: "Logged to 3,003' in Wilcox." (Mellen)

Comments: Mississippi State Oil and Gas Board well file shows Section 17 on permit plat and Section 20 on completion form. Sulphur test

Completed: D&A 6/1944

Well: Exploro Corporation No. 5 E. H. Bradshaw

API well number: 23-091-00459

Location: 600' N and 1,400' W of SE/corner of Section 20-T3N-R17W (map no. 5)

Elevation: 231' GL (scout ticket and Mississippi State Oil and Gas Board well file), 284' GL (topographic map)

Total depth: 3,000'

Reported formation tops:

Geophysical logs: "Logged to 3,000'." (Mellen)

Comments: Drillers log shows normal sediments to total depth. Sulphur test

Completed: D&A 8/1944

Well: Exploro Corporation No. 6 E. H. Bradshaw

API well number: 23-091-00044

Location: 100' S and 100' W of center of Section 20-T3N-R17W (map no. 6)

Elevation: 287' GL

Total depth: 1,847'

Reported formation tops: (drillers log)

cap rock 1,580'

anhydrite 1,614'

salt 1,647'

Geophysical logs: "Logged to 1,402'." (Mellen)

Comments: Sulphur test

Completed: D&A 8/1944

Well: Exploro Corporation No. 8 E. H. Bradshaw
API well number: 23-091-00046
Location: 600' N of common corner of Sections 20, 21, 28, and 29, in Section 20 and 21-T3N-R17W (map no. 7)
Elevation: 259' GL
Total depth: 1,515'
Reported formation tops: (drillers log)
sandy lime 1,381' (possible cap rock)
anhydrite 1,416'
Geophysical logs: "logged to 1,396'." (Mellen)
Comments: Sulphur test
Completed: D&A 9/1944

Well: Exploro Corporation No. 2 E. H. Bradshaw
API well number: 23-091-00040
Location: 2,436' FNL and 2,577' FWL of Section 21-T3N-R17W (map no. 8)
Elevation: 324' GL
Total depth: 1,649'
Reported formation tops: (drillers log)
anhydrite 1,467'
Geophysical logs: "Logged to 1,403' in Clasbone [Claiborne?]." (Mellen)
Comments: Sulphur test
Completed: D&A 7/1944

Well: Exploro Corporation No. 3 E. H. Bradshaw
API well number: 23-091-00041
Location: 600' FSL and 1,400' FWL of Section 21-T3N-R17W (map no. 9)
Elevation: 271' GL (Mississippi State Oil and Gas Board well file and scout ticket), 245' GL (topographic map)
Total depth: 1,346'
Reported formation tops: (drillers log)
cap rock 1,305'
cap rock 1,310' (Mellen)
Geophysical logs: "Logged to 1,315'." (Mellen)
Comments: Drill string stuck in a cavity, well was junked. Sulphur test
Completed: J&A 7/1944

Well: Exploro Corporation No. 1 V. L. Cook
API well number: 23-091-00047
Location: 580' N and 525' E of SW/corner of SE/4 of NE/4 of Section 21-T3N-R17W (map no. 10)
Elevation: 352' GL
Total depth: 3,000'
Reported formation tops: No domal material encountered by drillers log.
Geophysical logs: "Logged to 2,995'." (Mellen)
Comments: Sulphur test
Completed: D&A 8/1944

Well: Gulf Refining Company No. 4 E. H. Bradshaw
API well number: 23-091-00057
Location: 330' N and 330' E of SW/corner of SE/4 of SE/4 of Section 21-T3N-R17W (map no. 11)
Elevation: 277' GL, 287' DF
Total depth: 7,200'

Reported formation tops: (scout ticket)
Heterostegina 1,245' (?)
Vicksburg 1,527'
Forest Hill 1,645' -90'
Moody's Branch 1,844'
Yegua 1,866'
Wautubbee 1,921'
Camerina 1,960'
Kosciusko 2,058'
Wilcox 3,859'
cap rock 4,632'
anhydrite 4,665'
salt 5,635'

Geophysical logs: Schlumberger electrical log 30'-5,673'
Comments: Cored 4,747'-57', no recovery; 4,757'-67', recovered 8' 6" anhydrite. Gulf ran geophysical surveys prior to plugging the well.
Completed: D&A 4/1945

Well: Pelican Oil & Gasoline Company No. 1 Pinelands, Inc.

API well number: 23-091-00180
Location: 400' S and 440' W of NW/corner of Section 22-T3N-R17W (map no. 12)
Elevation: 305' GL (topographic map)
Total depth: 2,606'
Reported formation tops:
Heterostegina 1,294'
Vicksburg 1,721'
Jackson 1,967'
Cockfield 2,236'
Geophysical logs:
Comments:
Completed: D&A 4/1934

Well: Gulf Refining Company No. 2 E. H. Bradshaw
API well number: 23-091-00055
Location: 660' FNL and 660' FWL of Section 27-T3N-R17W (map no. 13)
Elevation: 242' GL, 250' DF
Total depth: 9,241'
Reported formation tops:
Geophysical logs: Schlumberger electrical log 1,025'-9,235'
Comments: Twisted off drillstem at 6,368', leaving 510' in hole. Schlumberger showed drillstem from 6,104'-604'. Attempted to sidetrack at 6,406'. "Drilled to 9,241' in normal but steep dipping sedimentary section." (Mellen)
Completed: D&A 4/1944

Well: Gulf Refining Company No. 5 E. H. Bradshaw
API well number: 23-091-00058
Location: 165' FNL and 165' FEL of Section 28-T3N-R17W (map no. 14)
Elevation: 240' GL, 256' DF
Total depth: 6,828'
Reported formation tops: (scout ticket)
Heterostegina 1,270'
Vicksburg 1,607'

Red Bluff	1,806'
Moodys Branch	1,970'
Yegua	2,001'
Camerina	2,075'
Kosciusko	2,240'
Zilpha	2,437'
Winona	2,638'
Wilcox	2,780'
Midway	3,827'
chalk	5,257'
Eutaw	5,672'
anhydrite	6,734'

Geophysical logs: Schlumberger electrical log 85'-6,754'. Dipmeter, Sperry-Sun directional survey ("driftmeter" on scout ticket)

Comments: Cored 5,693'-703', recovered sand with salt water; 6,474'-77', recovered 1" chert conglomerate; 6,577'-86', no recovery; 6,586'-94', recovered 1' 6" chert conglomerate; 6,725'-35', recovered 1' 6" shale; 6,735'-44', recovered 7' 6" anhydrite; 6,744'-54', recovered 6' anhydrite; 6,823'-28', recovered 5' anhydrite. Took 15 sidewall cores 6,701'-24', all no show.

Completed: D&A 9/1945

Well: Exploro Corporation No. 7 E. H. Bradshaw

API well number: 23-091-00045

Location: 616' FNL and 1,800' FWL of Section 28-T3N-R17W (map no. 15)

Elevation: 224' GL

Total depth: 1,465'

Reported formation tops: (drillers log)

anhydrite 1,362'

Geophysical logs: "Logged to 1,306'." (Mellen)

Comments: Sulphur test

Completed: D&A 8/1944

Well: Amerada Hess Corporation No. 1 Pineland Mineral Trust

API well number: 23-091-20270

Location: 1,400' S and 3,067' E of NW/corner of Section 29-T3N-R17W (proposed bottom hole location 300'S and 1,100' W of NE/corner of Section 29) (map no. 16)

Elevation: 236' GL

Total depth: permit depth 17,500'

Reported formation tops:

Geophysical logs:

Comments: Logged at 15,355' on 11/28/1994.

Completed:

Well: Gulf Refining Company No. 3 E. H. Bradshaw

API well number: 23-091-00056

Location: 660' S and 660' W of NE/corner of SE/4 of NW/4 of Section 29-T3N-R17W (map no. 17)

Elevation: 232' GL

Total depth: 9,622'

Reported formation tops: (scout ticket)

Midway 6,345'

Clayton 7,084'

chalk 7,090' (driller)

Selma 7,113'

base chalk 8,438'

Tuscaloosa 8,621'

Geophysical logs: Schlumberger electrical log 32'-9,047'

Comments: Cored 6,518'-27', no recovery; 6,625'-40', recovered 13' black shale; 8,791'-811', recovered 16' sand, no show; 8,811'-21', recovered 4' shale and 5' sand, no show; 9,223'-40', recovered 12' sand and sandy shale, no show.

Completed: D&A 1/1945

Well: Oryx Energy Company No. 1 Pineland Minerals Trust

API well Number: 23-091-20227

Location: 745' FNL and 2,062' FEL of Section 29-T3N-R17W (map no. 18)

Elevation: 262' GL, 267' DF, 268' KB

Total depth: 17,501'

Reported formation tops:

Geophysical logs: Schlumberger Dual Induction/SFL Long Spaced Sonic Gamma Ray 123'-17,495'; Microlog 14,930'-17,470'; Litho Density Compensated Neutron 123'-17,500'; Dipmeter Computed Result 6,985'-14,940'; Directional Survey 100'-13,158'

Comments:

Completed: D&A 9/1990

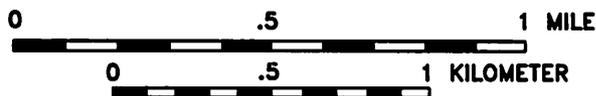
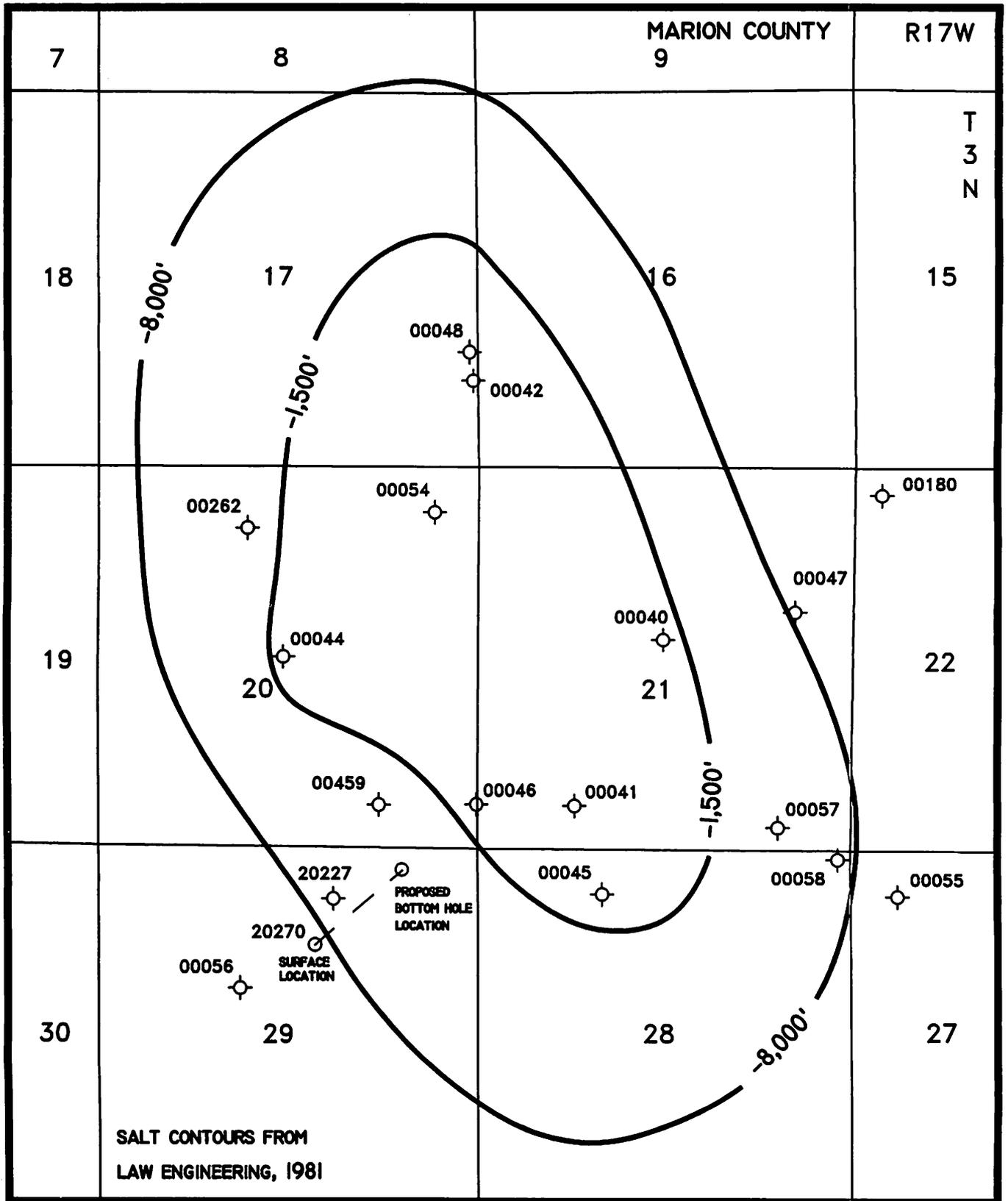
Lampton Salt Dome

Lampton Salt Dome is one of three salt domes in Mississippi to be studied by Law Engineering Testing Company under subcontract to Battelle Memorial Institute, Office of Nuclear Waste Isolation under contract with the U.S. Department of Energy for the purpose of identifying suitable sites for a nuclear waste repository. This study included local and regional studies of geologic structure, stratigraphy, geomorphology, tectonics, seismicity and resource analysis. Gravity modeling using gravity data, seismic and well log data was done to model the size and shape of the salt stocks.

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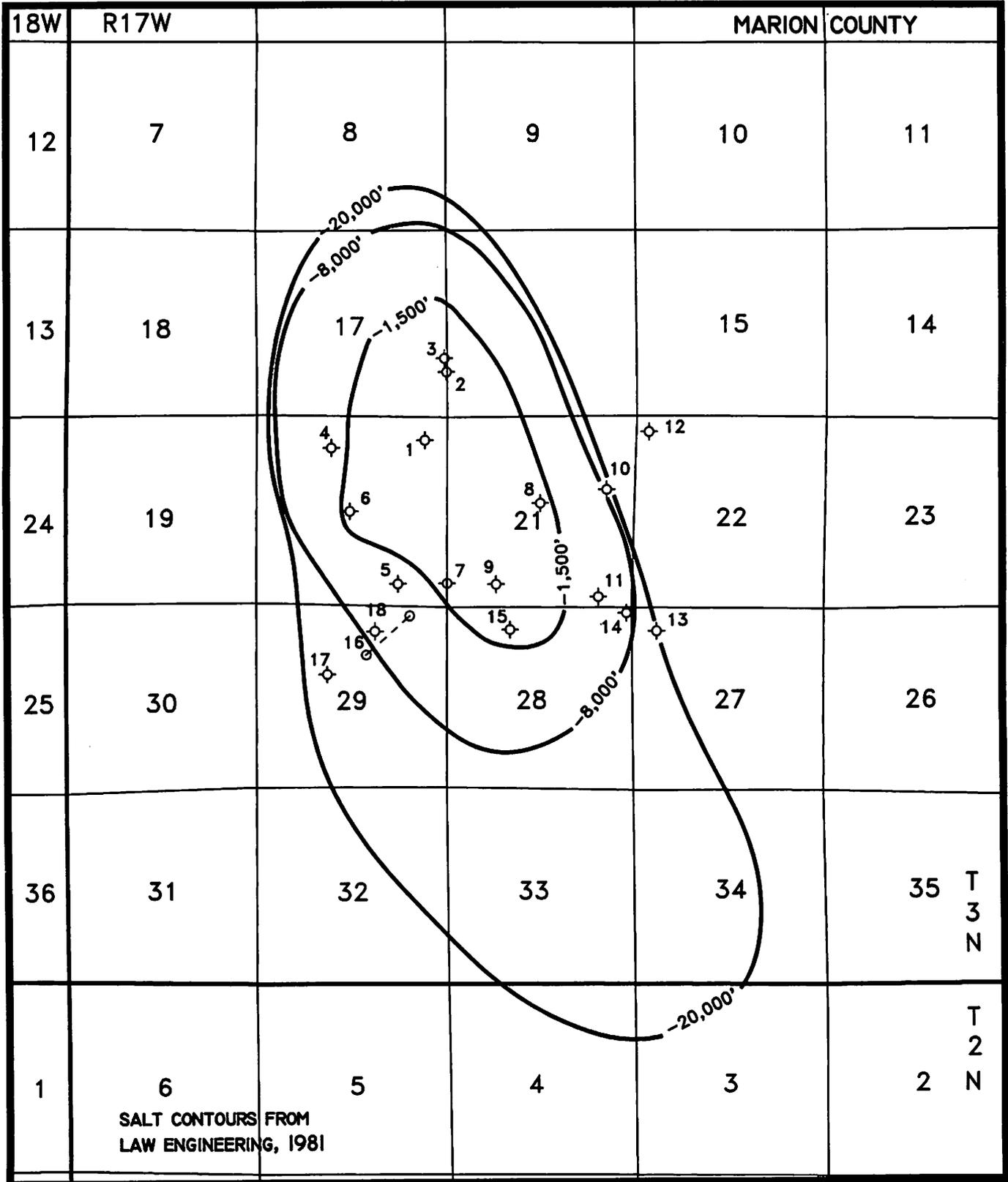
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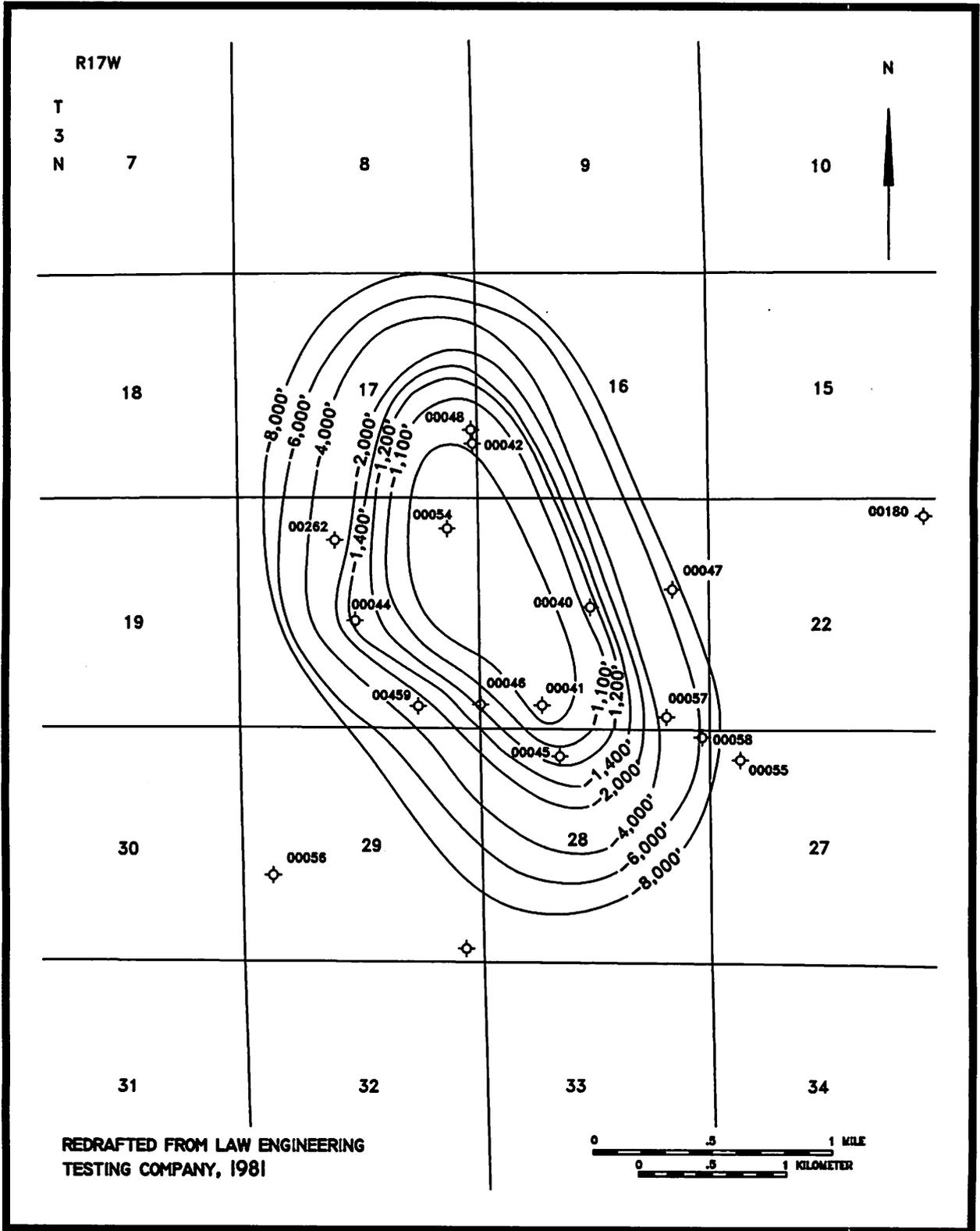


LAMPTON DOME

FIGURE 81

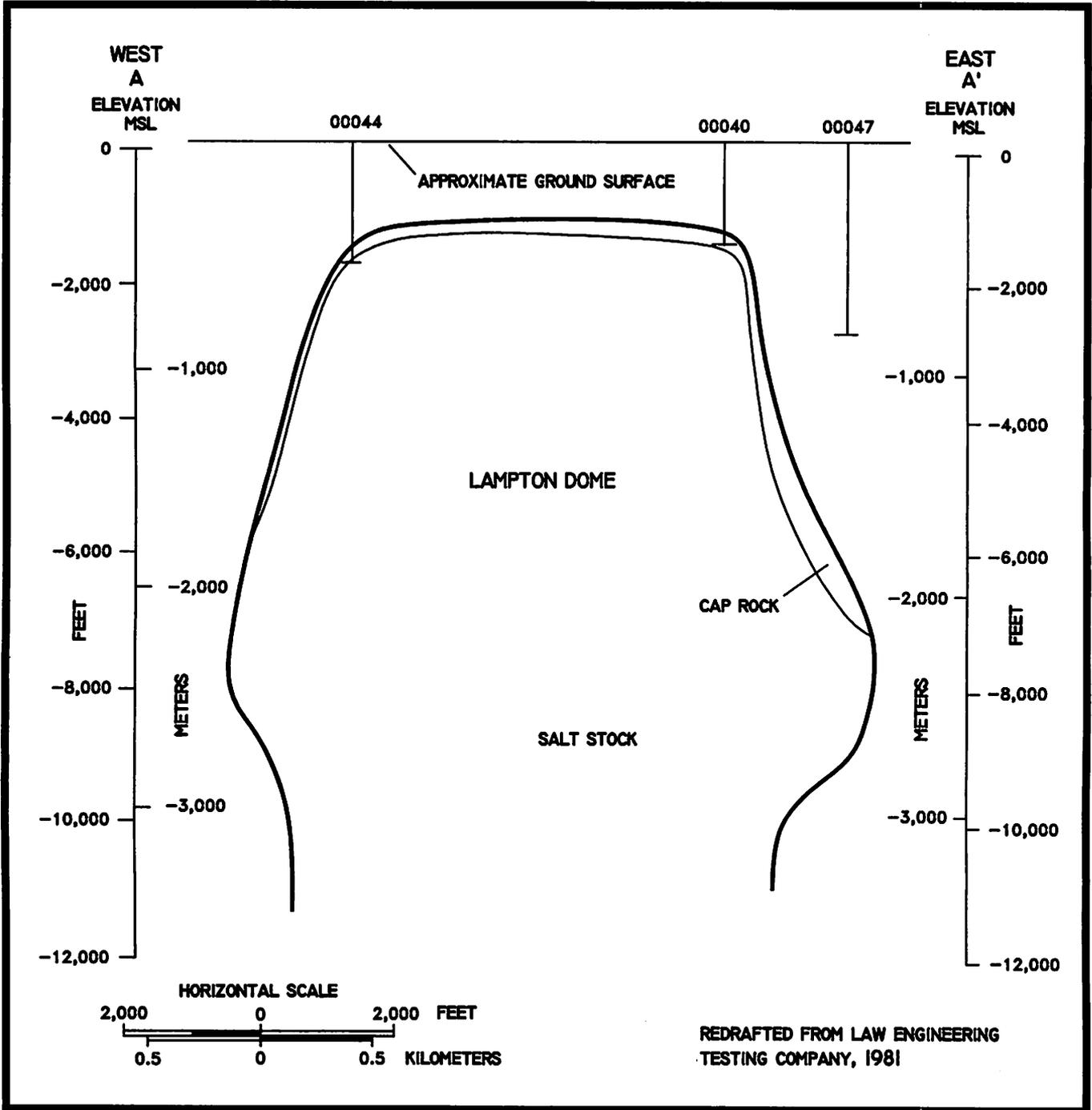


LAMPTON DOME
FIGURE 82



GRAVITY STUDIES
LAMPTON SALT DOME
MARION COUNTY, MISSISSIPPI
CAP ROCK STRUCTURE CONTOUR MAP

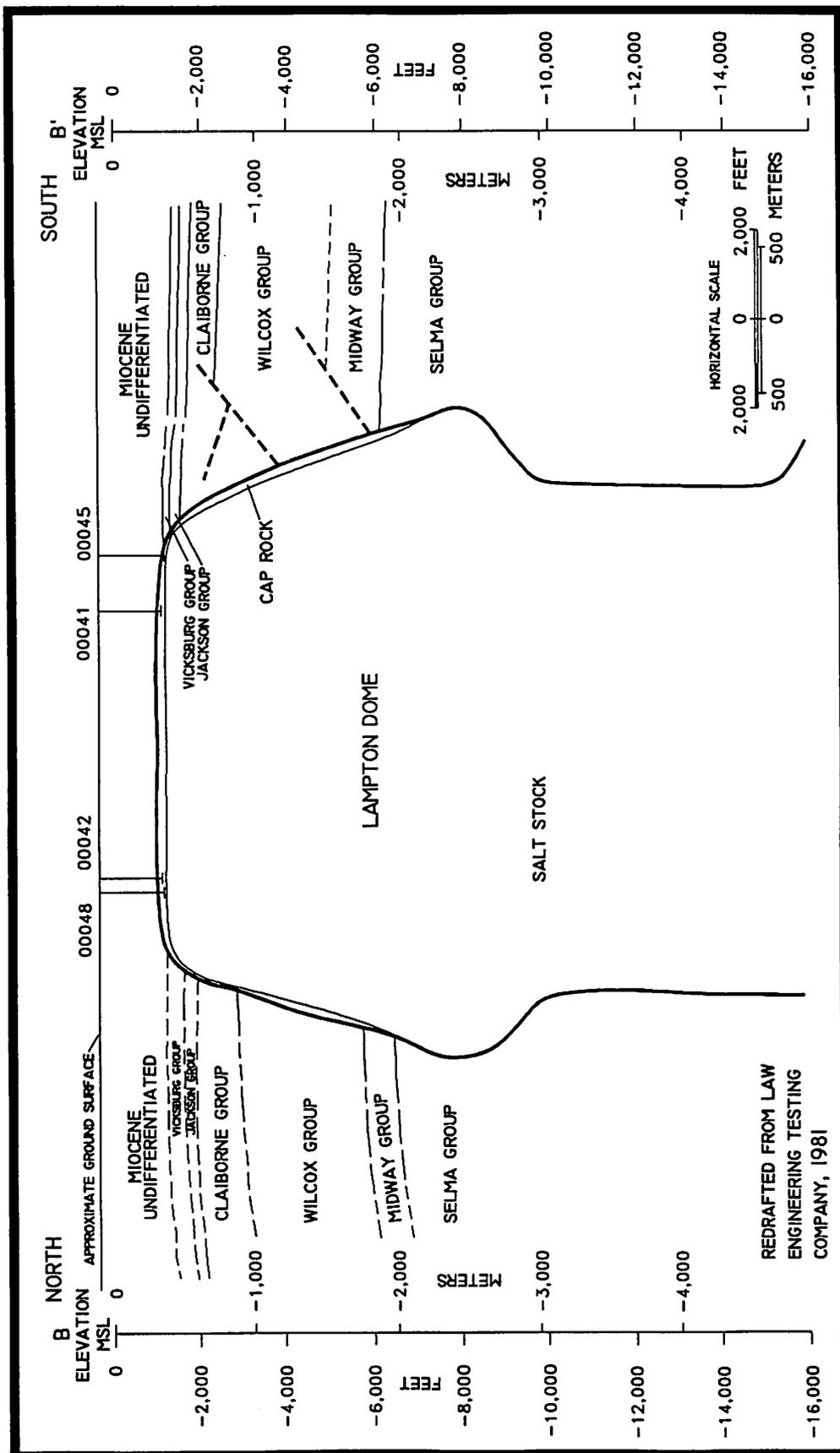
FIGURE 83



GRAVITY STUDIES LAMPTON SALT DOME

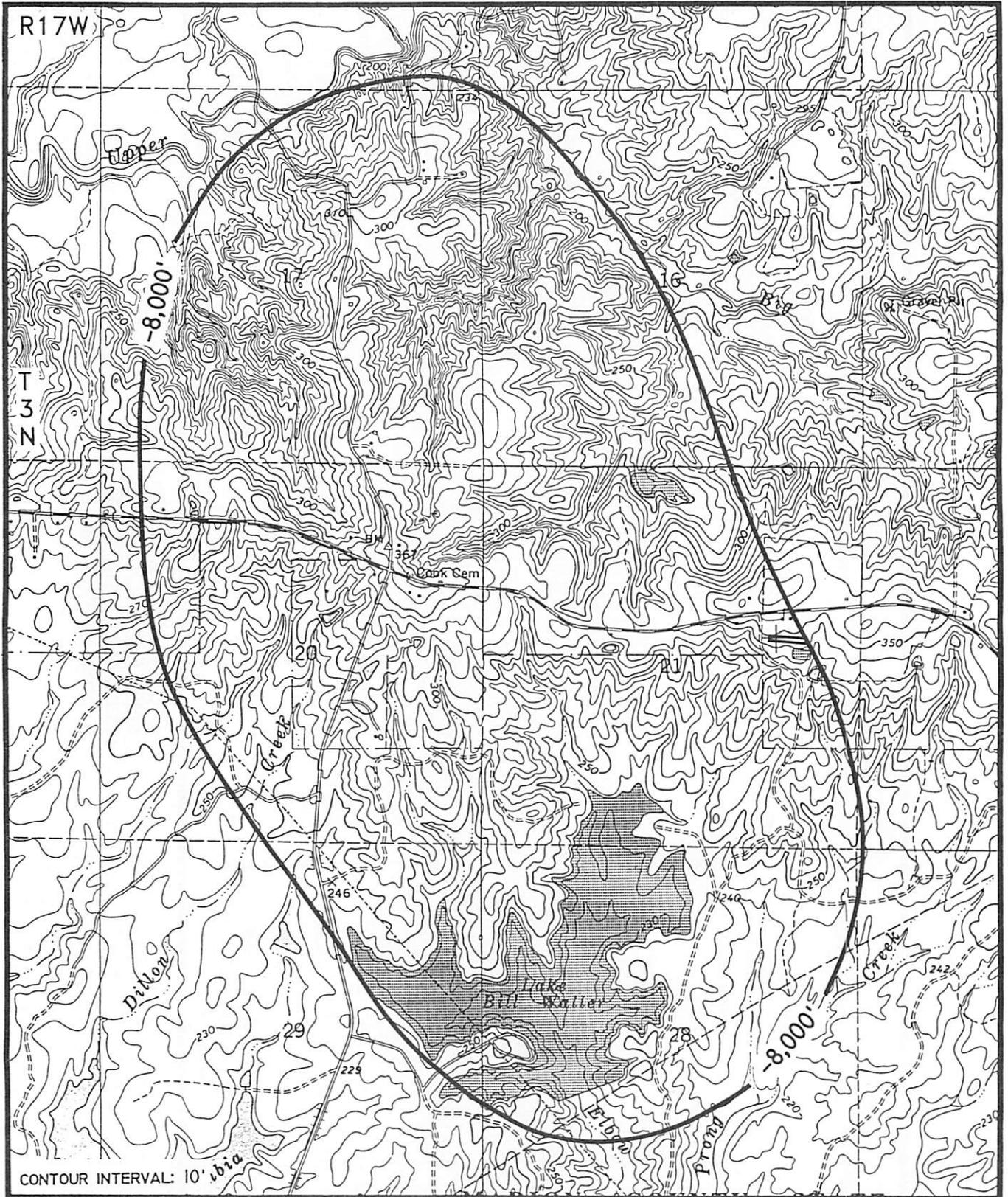
MARION COUNTY, MISSISSIPPI
CROSS SECTION A-A'

FIGURE 85

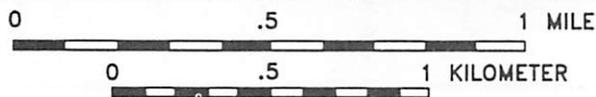


GRAVITY STUDIES
LAMPTON SALT DOME
MARION COUNTY, MISSISSIPPI
CROSS SECTION B-B'

FIGURE 86

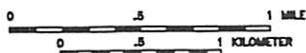
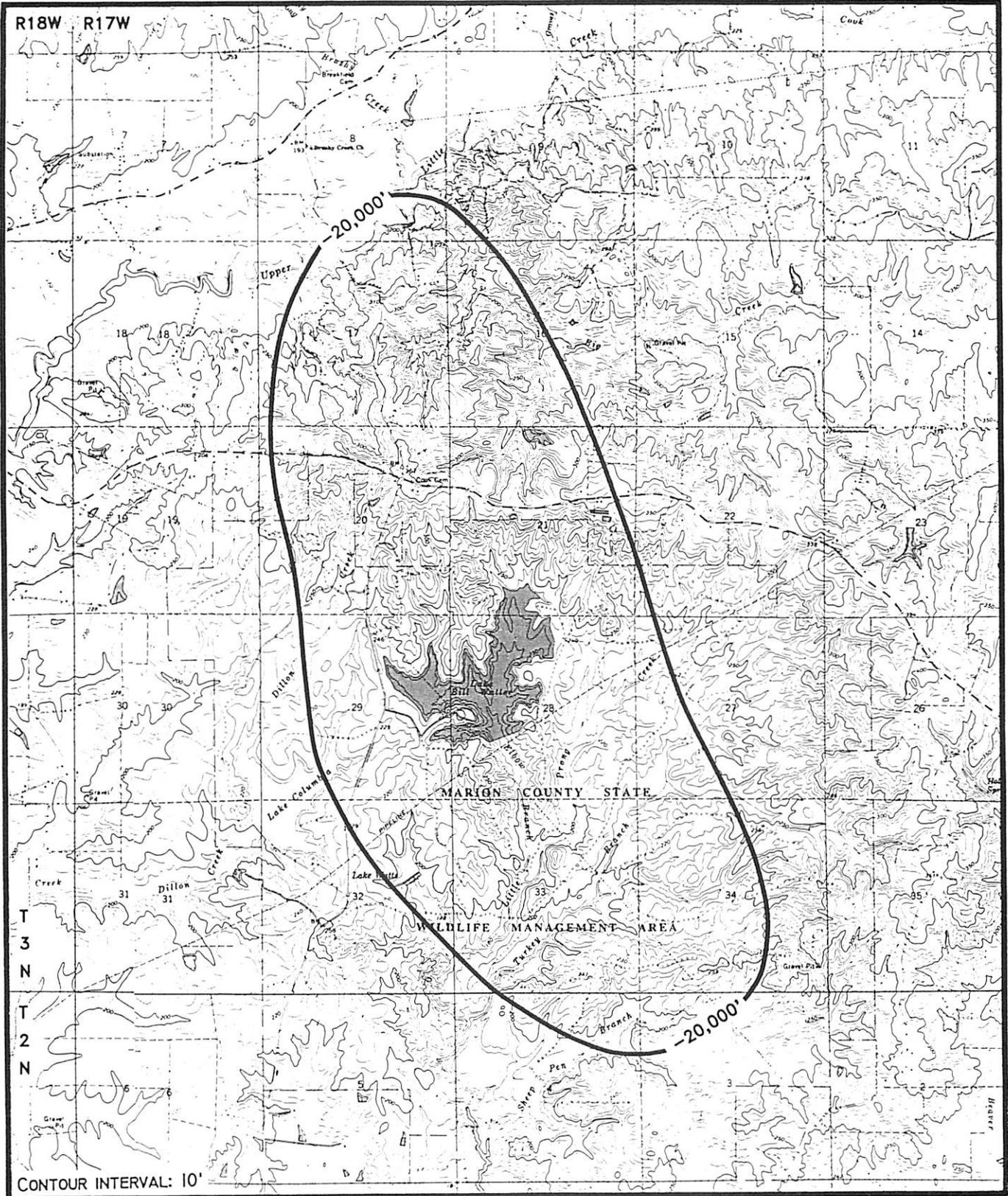


CONTOUR INTERVAL: 10' *bia*



LAMPTON DOME

FIGURE 87



LAMPTON DOME

FIGURE 88

LEARNED SALT DOME

GENERAL DATA

Location: Sections 25,26,35,36-T5N-R4W, Hinds County, Mississippi

USGS topographic map(s): Edwards, Learned

Geophysical data: Weak gravity minimum

Estimated size and shape: Nearly circular, one mile in diameter

Estimated base fresh water (10,000 ppm): -3,000'

Economic use: None to date

Shallowest known cap rock: 4,429' (The Texas Company No. 1 C. D. Noble)

Shallowest known salt: 4,436' (The Texas Company No. 1 C. D. Noble)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (First Energy Corporation No. 1 Irving Estate 26-10)

Nearest oil or gas production: Mt. Moriah Field produced from the Lower Cretaceous Rodessa Formation on the northwest flank of the dome.

DRILLING HISTORY

Discovery well: The Texas Company No. 1 C. D. Noble

API well number: 23-049-00280

Location: 330' N and 330' W of SE/corner of NE/4 of Section 35-T5N-R4W

Elevation: 158' GL (topographic map), 168' DF

Total depth: 4,452'

Reported formation tops: (scout ticket)

Jackson	276'
Moodys Branch	753'
Cockfield	775'
Cook Mountain	1,332'
Camerina	1,372'
Sparta	1,470'
Cane River	2,367'
Tallahatta	2,630'
Wilcox	2,957'
cap rock	4,429'
cap rock	4,435' (Mellen)
salt	4,436'
salt	4,442' (Mellen)

Geophysical logs: Schlumberger electrical log 100'-4,452'

Comments:

Completed: D&A 11/1949

Additional drilling:

Well: First Energy Corporation No. 1 Irving Estate 26-10

API well number: 23-049-20153

Location: 2,000' FSL and 2,000' FEL of Section 26-T5N-R4W

Elevation: 167' GL, 194' DF, 195' KB

Total depth: 13,216'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Eutaw	7,292' - 7,570'
Lower Tuscaloosa	8,570' - 8,850'
Paluxy	9,700' - 10,650'
Ferry Lake	11,730' - 11,984'
Rodessa	12,150' - 12,787'
Pine Island	12,787' - 12,980'
Sligo	12,980' - 13,160'
Hosston	13,160'

Geophysical logs: Schlumberger Dual Induction-Long Spaced Sonic 3,475'-13,207', Microlog 5,220'-13,207', Compensated Neutron-Litho Density 5,244'-13,208', Cyberbond 10,400'-13,000', EPT 5,250'-13,209', VOLAN 11,950'-13,150', Dipmeter 9,387'-13,216'

Comments: Discovery well for Mt. Moriah Field. Completed for 329 BOPD, 474 MCFGPD, 44 BWPD, adjustable choke, gravity 49.2°, TP 883#, CP 30# from Rodessa perforations 12,176'-228'. Set whipstock and side-tracked at 7,116'. Took sidewall cores 5,330'-13,056'.

Completed: 9/1987

Well: EP Operating Company No. 1 Lucille Noble Harpole 35-7 et al.

API well number: 23-049-20161

Location: 1,750' FNL and 2,133' FEL of Section 35-T5N-R4W

Elevation: 160' GL, 185' DF, 186' KB

Total depth: 13,350'

Reported formation tops: (scout ticket)

chalk	6,385'
Eutaw	7,135'
Tuscaloosa	7,935'
Mooringsport	11,340'
base Ferry Lake	12,160'
Pine Island	12,890'
Sligo	13,005'

Geophysical logs: Atlas Wireline Services/Dresser Atlas Dual Induction Focused Log BHC Acoustilog Gamma Ray 52'-13,154', FDC/CNL/GR, Dip

Comments: Took sidewall cores, no interval reported.

Completed: D&A 2/1988

Well: The Texas Company No. 2 C. D. Noble Mineral Fee

API well number: 23-049-00281

Location: 1,325' S and 662' W of NE/corner SE/4 of Section 35-T5N-R4W

Elevation: 162' GL (topographic map), 175' DF (log heading), 180' DF (scout ticket)

Total depth: 9,021'

Reported formation tops: (scout ticket)

Jackson	303'
Moodys Branch	799'
Cockfield	818'
Cook Mountain	1,353'
Camerina	1,503'
Sparta	1,701'
Cane River	2,387'
Winona-Tallahatta	2,670'
Wilcox	3,006'
Midway	5,903'
chalk	6,808'
Eutaw	7,467'
Tuscaloosa	8,089'
marine Tuscaloosa	8,585'
Lower Tuscaloosa	8,938'
Lower Cretaceous	8,995'

Geophysical logs: Schlumberger electrical log 40'-9,021'

Comments:

Completed: D&A 7/1950

PRODUCTION

Cumulative Production (off production 1/1/1992)

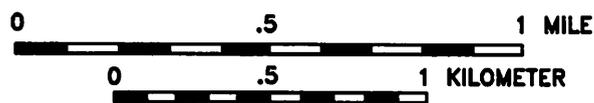
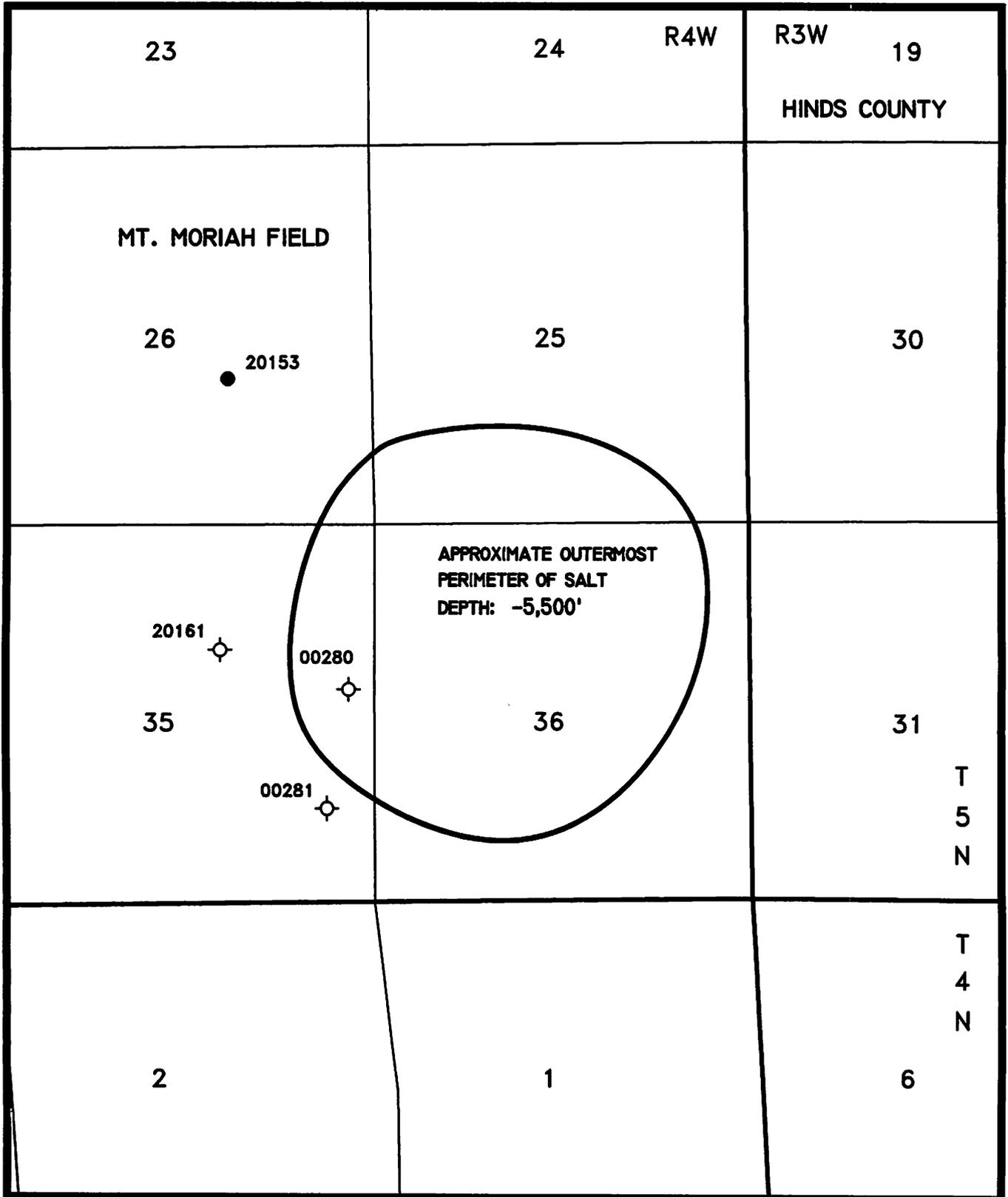
Oil (Barrels)

Mt. Moriah Field

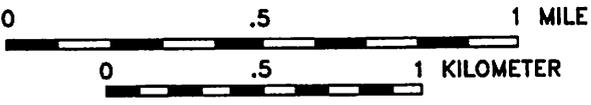
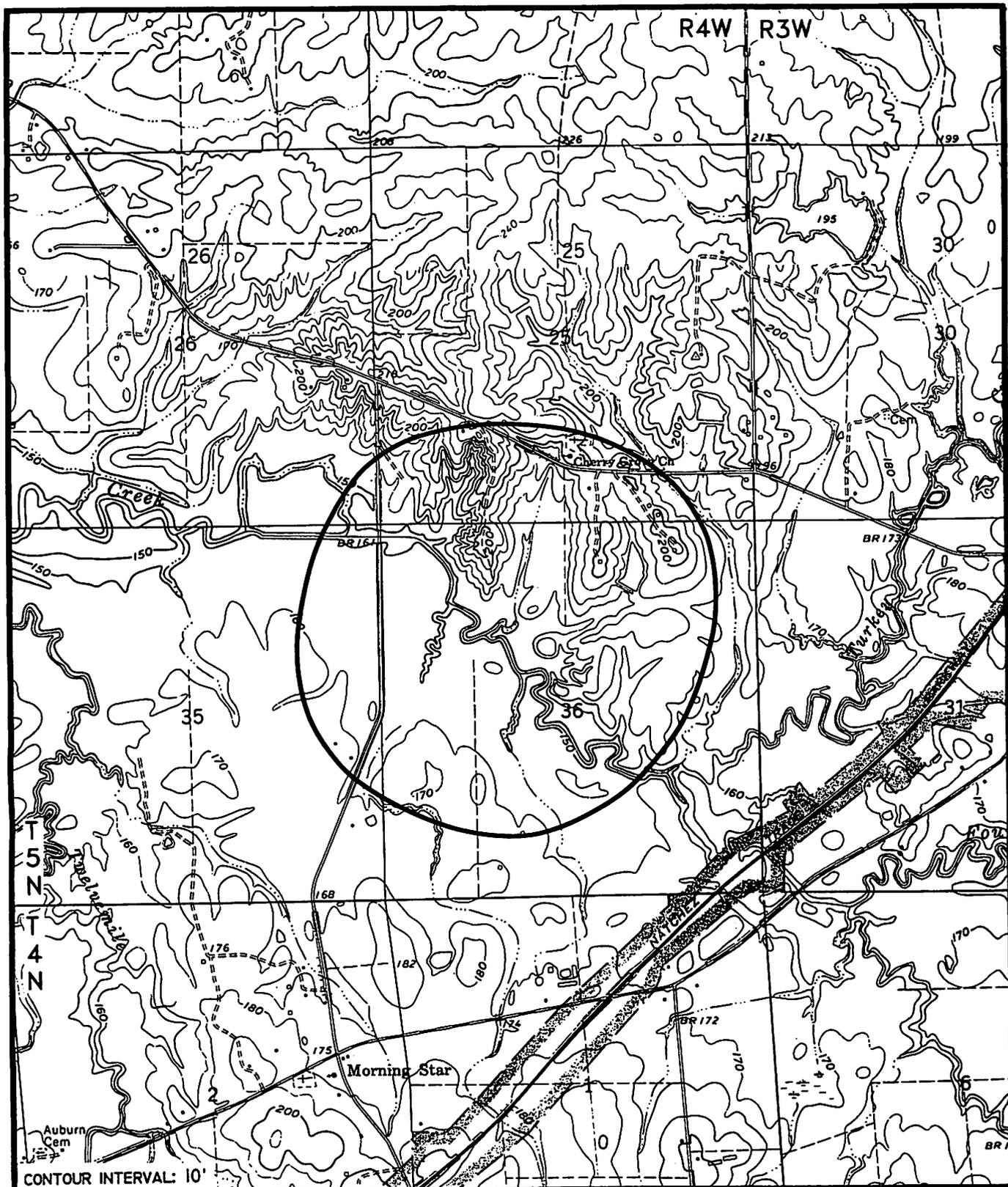
Rodessa 9,357

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LEARNED DOME
FIGURE 89



LEARNED DOME
FIGURE 90

LEEDO SALT DOME

GENERAL DATA

Location: Sections 17,18,19,20,30-T8N-R4E, and Section 24-T8N-R3E, Jefferson County, Mississippi
USGS topographic map(s): Union Church
Geophysical data: Gravity shows a good minimum with a cap rock maximum.
Estimated size and shape: Circular, 1.5 miles in diameter
Estimated base fresh water (10,000 ppm): -1,600'
Economic use: None to date
Shallowest known cap rock: 1,440' (Exploro Corporation No. 3 John T. Cupit)
Shallowest known salt: 2,060' (Gulf Refining Company No. 1 Sarah B. Cupit et al.)
Oldest formation penetrated within one mile of dome: Upper Cretaceous Lower Tuscaloosa Formation (Gulf Refining Company No. 2 Ella M. Cato)
Nearest oil or gas production: Union Church Field, 4 miles to the northeast, produces from the Lower Cretaceous Rodessa Formation.

DRILLING HISTORY

Discovery well: Gulf Refining Co. No. 1 Sarah B. Cupit et al.
API well number: 23-063-00258
Location: 729' S and 686' W of NE/corner of NW/4 of Section 19-T8N-R4E
Elevation: 470' GL (topographic map), 478' DF
Total depth: 2,070'
Reported formation tops: (Mellen)
 cap rock 1,605'
 salt 2,060' (scout ticket)
 salt 2,065'
Geophysical logs: Schlumberger electrical log 487'-1,609'
Comments:
Completed: D&A 6/1943

Additional drilling:

Well: DEX, Incorporated (Sovereign Energy) No. 1 W. McCormick
API well number: 23-063-20419
Location: 619' FSL and 607' FEL of NW/4 of SW/4 of Section 13-T8N-R3E
Elevation: 467' GL, 471' DF, 473' KB
Total depth: 6,676'
Reported formation tops:
Geophysical logs: Gearhart Dual Induction-Laterolog B.H.C. Sonic Log 730'-6,674'
Comments: In Wilcox at total depth.
Completed: D&A 8/1986

Well: Exploro Corporation No. 1 Sarah V. Cupit et al.
API well number: 23-063-00216
Location: 70' FSL and 1,299' FEL of Section 18-T8N-R4E
Elevation: 510' GL (topographic map)
Total depth: 2,130'
Reported formation tops: (drillers log)
 cap rock 1,823'
Geophysical logs:
Comments: Sulphur test
Completed: D&A 4/1944

Well: Exploro Corporation No. 1 John T. Cupit
API well number: 23-063-00214
Location: 2,240' FNL and 1,501' FEL of Section 19-T8N-R4E
Elevation: 519' GL (topographic map)
Total depth: 2,106'
Reported formation tops: (drillers log)
 cap rock 1,847'-2,040'
Geophysical logs:
Comments: Reported soft calcareous sand below the cap rock, from 2,040'-2,106'. Sulphur test
Completed: D&A 5/1944

Well: Exploro Corporation No. 3 John T. Cupit
API well number: 23-063-00215
Location: 900' FNL and 1,881' FEL of Section 19-T8N-R4E
Elevation: 517' GL
Total depth: 2,078'
Reported formation tops: (drillers log)
 cap rock 1,440'
 anhydrite 2,035'
Geophysical logs:
Comments: Samples from 1,440' to total depth were described as limestone, calcite, and pyrite with occasional green or white sandstone and blue shale. Pyrite was reported to make up 75% of the samples from 1,690'. The bottom 43' was hard limestone, calcite, pyrite, and anhydrite. Sulphur test
Completed: D&A 4/1944

Well: Gulf Refining Company No. 1 Ella M. Cato
API well number: 23-063-00254
Location: 1,217' S and 712' E of NW/corner of NE/4 of Section 30-T8N-R4E
Elevation: 462' GL (topographic map), 472' DF (scout ticket), 478' DF (log heading)
Total depth: 10,925'
Reported formation tops: (scout ticket)
 Vicksburg 1,486'
 Yazoo 1,650'

Moodys Branch	1,868'
Yegua	1,895'
Wilcox	3,008'
Midway	5,219'
Selma	6,221'

Geophysical logs: Schlumberger electrical log 966'-10,925'

Comments: Cored 8,584'-93', recovered gray shale with 50° dip; 10,862'-82', recovered 9.5' sand and sandy shale with no show; 10,882'-903', recovered 7' sand and sandy shale with no show. Mellen and the scout ticket reported this well cut a thrust fault ("possibly vertical" (Mellen)) and encountered repeated sections of Midway and chalk.

Completed: D&A 4/1944

Well: Gulf Refining Company No. 2 Ella M. Cato

API well number: 23-063-00255

Location: 330' S and 330' E of NW/corner of NE/4 of Section 30-T8N-R4E

Elevation: 478' GL (topographic map), 485' DF

Total depth: 8,028'

Reported formation tops: (scout ticket)

Original Hole

Vicksburg	1,426'
Yazoo	1,503'
Moodys Branch	1,724'
Yegua	1,750'
Cook Mountain	2,084'
Camerina	2,116'

second sidetrack hole

marine Tuscaloosa	6,913'-7,373'
massive sand	7,580'
cap rock	7,817'
salt	7,892'

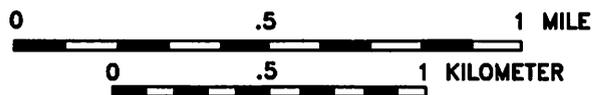
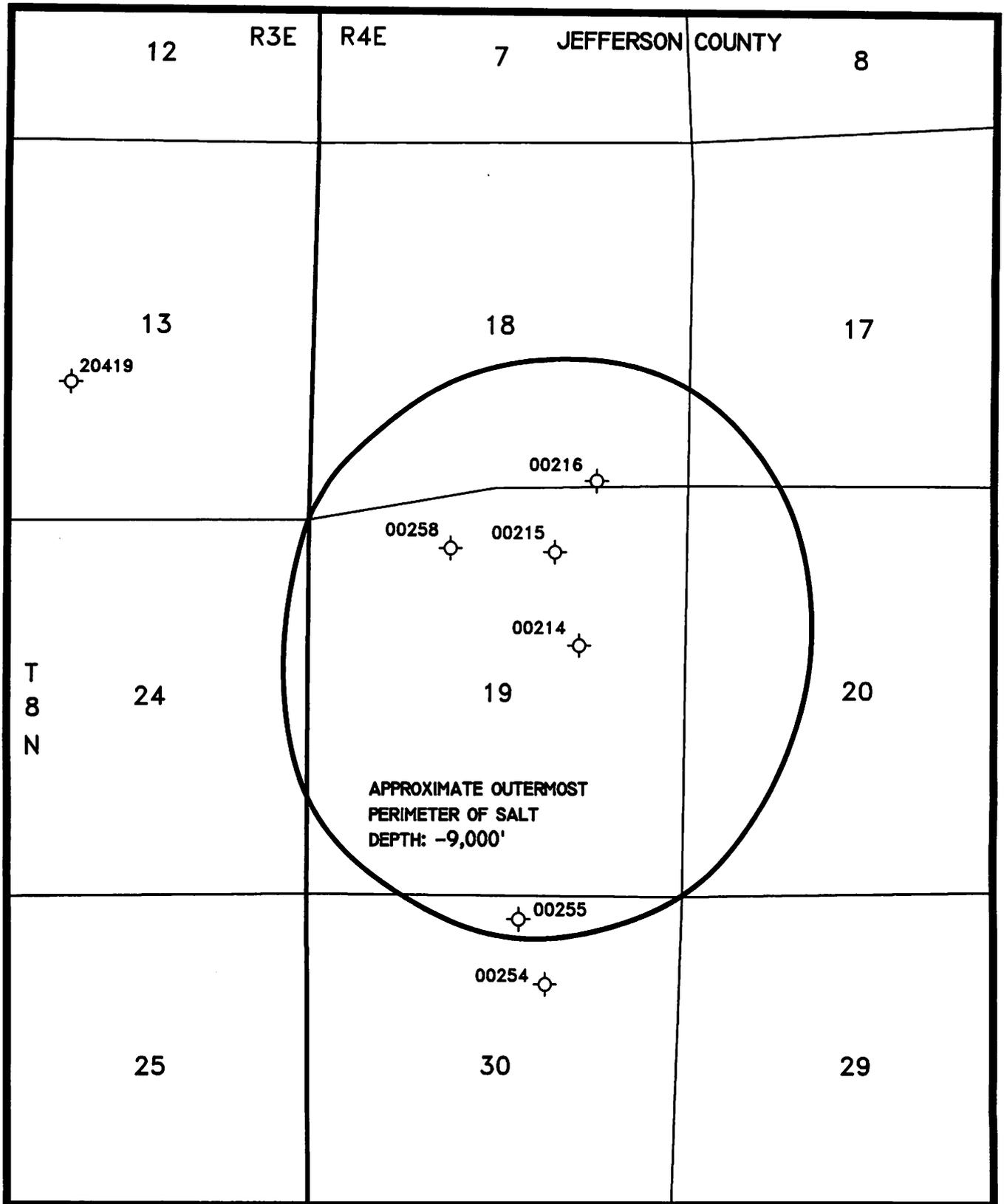
Geophysical logs: Original hole, Schlumberger electrical log 65'-2,206'. Second sidetrack hole and original hole, Schlumberger electrical log 2,206'-7,906'

Comments: Original hole deviated 7° at 4,522'. Sidetracked at 4,412' and stuck drill pipe at 5,251'. Changed drilling contractor and built new derrick at 5,251'.

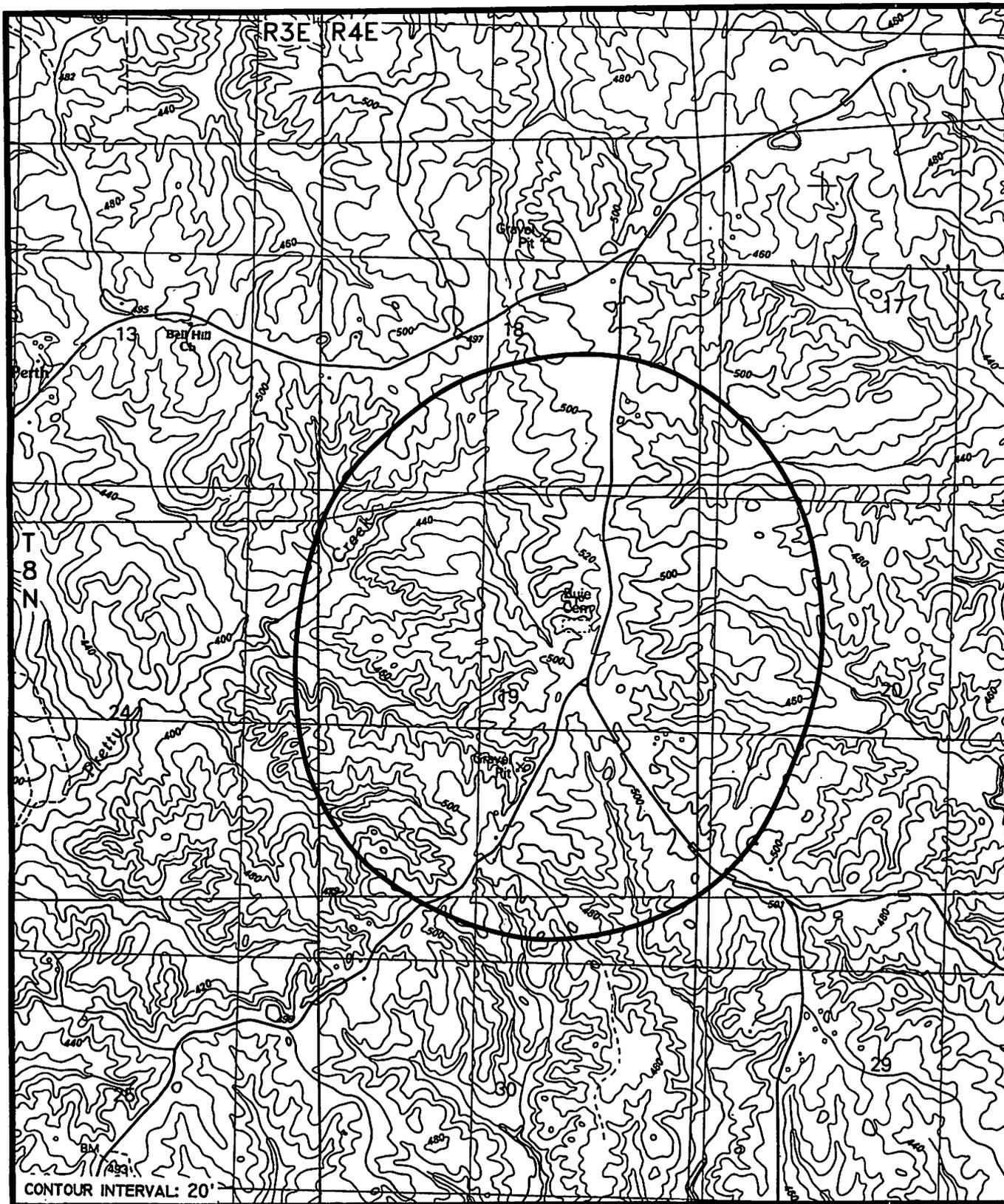
Sidetracked old hole at 4,585'. Cored 7,908'-13', recovered 2' 6" salt. "A normal fault cuts the Lower Austin." (Mellen)
Completed: D&A 10/1945

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LEEDO DOME
FIGURE 91



LEEDO DOME

FIGURE 92

MCBRIDE SALT DOME

GENERAL DATA

Location: Sections 3,10,11-T9N-R4E, Jefferson County, Mississippi

USGS topographic map(s): Union Church, McBride

Geophysical data: Mellen reported the first test was based on a reconnaissance survey of the gravity. A later, more detailed seismic survey located the discovery well.

Estimated size and shape: Circular, 1 mile diameter

Estimated base fresh water (10,000 ppm): -1,800'

Economic use: Abandoned McBride gas field on crest

Shallowest known cap rock: 2,010' (Freeport Sulphur Company No. 4 W. G. Greer et al.)

Shallowest known salt: 2,168' (Freeport Sulphur Company No. 4 W. G. Greer et al.)

Oldest formation penetrated within one mile of dome: Lower Cretaceous (Placid Oil Company No. 1 POC-Paramount-Greer et al. 10-13)

Nearest oil or gas production: McBride Field (abandoned) is on the crest. The next closest field is Union Church Field, 5 miles south, which produced from the Lower Cretaceous Rodessa Formation.

DRILLING HISTORY

Discovery well: The California Company No. 2 W. G. Greer et al.

API well number: 23-063-00063

Location: 1,704' S and 273' E of NW/corner of NE/4 of Section 10-T9N-R4E (map no. 1)

Elevation: 335' GL (topographic map), 340' DF (scout ticket), 350' DF (log heading)

Total depth: 2,225'

Reported formation tops: (scout ticket)

anhydrite 2,184'

salt 2,205'

Geophysical logs: Schlumberger Composite Log 73'-2,223'

Comments: This well discovered the presence of the dome and shallow gas in the Cockfield Formation at 1,450'. The well tested 407 MCFGPD (sour) from perforations 1,452'-62', 13/64" choke, FTP 162#, SITP 537#, gas gravity 0.57. Absolute open flow was 1,012 MCFGPD with shut in pressure of 570#. This well was producing to three residences as of 11/1988.

Completed: 12/1946

Additional drilling:

Well: Barco Drilling Corporation No. 1 McKinney-Greer

API well number: 23-063-20140

Location: 2,512' FNL and 1,975' FEL of Section 10-T9N-R4E (map no. 2)

Elevation: 325' GL (topographic map), 327' KB

Total depth: 1,750'

Reported formation tops:

Geophysical logs:

Comments: Possible gas sands at 1,070'-138', upper Cockfield gas sands 1,526'-80', lower Cockfield gas sand 1,626'-708', perforated and tested undisclosed interval with no details of testing.

Completed: D&A 9/1974

Well: The California Company No. 1 W. G. Greer et al.

API well number: 23-063-00062

Location: 2,028' N and 666' W of SE/corner of SW/4 of Section 10-T9N-R4E (map no. 3)

Elevation: 325' GL (topographic map), 326' DF

Total depth: 5,616'

Reported formation tops: (scout ticket)

Moodys Branch 1,608'

Yegua 1,644'

Sparta 2,220'

Cane River 2,641'

Wilcox 3,225'

Geophysical logs: Schlumberger Composite Log 0-5,608', dipmeter

Comments: Cored 1,645'-63', recovered 18' sand; 2,240'-60', recovered 2' 6" hard impermeable sandstone; 2,319'-36', recovered 3' sand with no show; 3,352'-74', recovered 4' 6" sand with occasional intercalated lignite beds with faint gas odor (log notes no mudlog gas show); 5,606'-16', recovered 2' lignitic shale and sand with no show. Drillstem test 3,353'-74', recovered 1,980' salt water and 60' mud with no show. Took 33 sidewall cores 4,539'-5,594', all no show.

Completed: D&A 11/1946

Well: Freeport Sulphur Company No. 1 W. G. Greer et al.

API well number: 23-063-00226

Location: 1,600' FEL and 1,033' FNL of Section 10-T9N-R4E (map no. 4)

Elevation: 335' GL (topographic map), 339' GL

Total depth: 2,232'

Reported formation tops: (drillers log)

cap rock 2,179'

salt 2,201'

Geophysical logs:

Comments: Mellen reports that all of the Freeport Sulphur Company wells on McBride Dome were logged, but does not say whether these were drillers sample logs or electrical logs. Sulphur test

Completed: D&A 7/1947

Well: Freeport Sulphur Company No. 2 W. G. Greer et al.

API well number: 23-063-00227

Location: 884' FNL and 3,039' FEL of Section 10-T9N-R4E (map no. 5)

Elevation: 357' GL

Total depth: 2,214'

Reported formation tops: (drillers log)

cap rock	2,151'
salt	2,208'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 8/1947

Well: Freeport Sulphur Company No. 3 W. G. Greer et al.

API well number: 23-063-00228

Location: 1,970' FEL and 2,503' FNL of Section 10-T9N-R4E (map no. 6)

Elevation: 323' GL (Mississippi State Oil and Gas Board well file), 320' GL (scout ticket)

Total depth: 2,195'

Reported formation tops: (drillers log)

cap rock	2,040'
salt	2,185'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 8/1947

Well: Freeport Sulphur Company No. 4 W. G. Greer et al.

API well number: 23-063-00229

Location: 2,020' FNL and 3,350' FEL of Section 10-T9N-R4E (map no. 7)

Elevation: 310' GL

Total depth: 2,169'

Reported formation tops: (drillers log)

cap rock	2,010'
anhydrite	2,165'
salt	2,168'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 9/1947

Well: Jaco-Hogan No. 1 Greer Heirs

API well number: 23-063-20439

Location: 2,503' FSL and 2,379' FWL of Section 10-T9N-R4E (map no. 8)

Elevation: 359' GL, 364' DF, 365' KB

Total depth: 2,299'

Reported formation tops: (Scout ticket)

base Catahoula	720'
Cockfield	1,727'
cap rock	2,160'

Geophysical logs: Schlumberger Dual Induction Sonic 505'-2,258'

Comments: Set pipe and perforated Cockfield from 1,766'-

74', 1,805'-15', 1,848'-83', 1,900'-10', no results given.

Completed: D&A 8/1989

Well: Lee Oil & Exploration Company No. 1 W. G. Greer

API well number: 23-063-00811

Location: 2,394' FSL and 2,317' FWL of Section 10-T9N-R4E (map no. 9)

Elevation: 345' GL (topographic map), 362' DF (est.-scout ticket)

Total depth: 2,611'

Reported formation tops: (scout ticket)

Vicksburg	1,182'
Moodys Branch	1,683'
Cockfield	1,700'
salt	2,501'

Geophysical logs: Schlumberger Electrical Log 485'-2,611'

Comments: Took 12 sidewall cores 1,666'-1,991', all no show

Completed: D&A 2/1957

Well: Placid Oil Company No. 1 POC-Paramount-Greer et al. 10-13

API well number: 23-063-20449

Location: 1,150' FWL and 1,200' FSL of Section 10-T9N-R4E (map no. 10)

Elevation: 326' GL, 338' DF, 339' KB

Total depth: 9,630'

Reported formation tops: (scout ticket)

Wilcox	3,528'
Midway	6,734'
chalk	7,614'
Eutaw	8,518'
marine shale	9,198'
Lower Tuscaloosa	9,317'
Lower Cretaceous	9,530'

Geophysical logs: Schlumberger Dual Induction/LS Sonic/GR 2,322'-9,618', dipmeter 2,322'-9,618', gamma ray 2,322'-9,618'

Comments: no cores or drillstem tests reported.

Completed: D&A 3/1991

Well: Reamking, Incorporated No. 1 Varnado (McKinney)

API well number: 23-063-20141

Location: 1,650' FNL and 3,194' FEL of Section 10-T9N-R4E (map no. 11)

Elevation: 328' GL (topographic map)

Total depth: 2,195'

Reported formation tops:

Geophysical logs: IES, no interval given on scout ticket

Comments: Took sidewall cores, no interval reported, recovered gas show 2,009'-58'. Set casing and perforated 2,008'-18', no results given.

Completed: D&A 9/1974

PRODUCTION

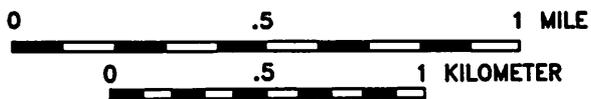
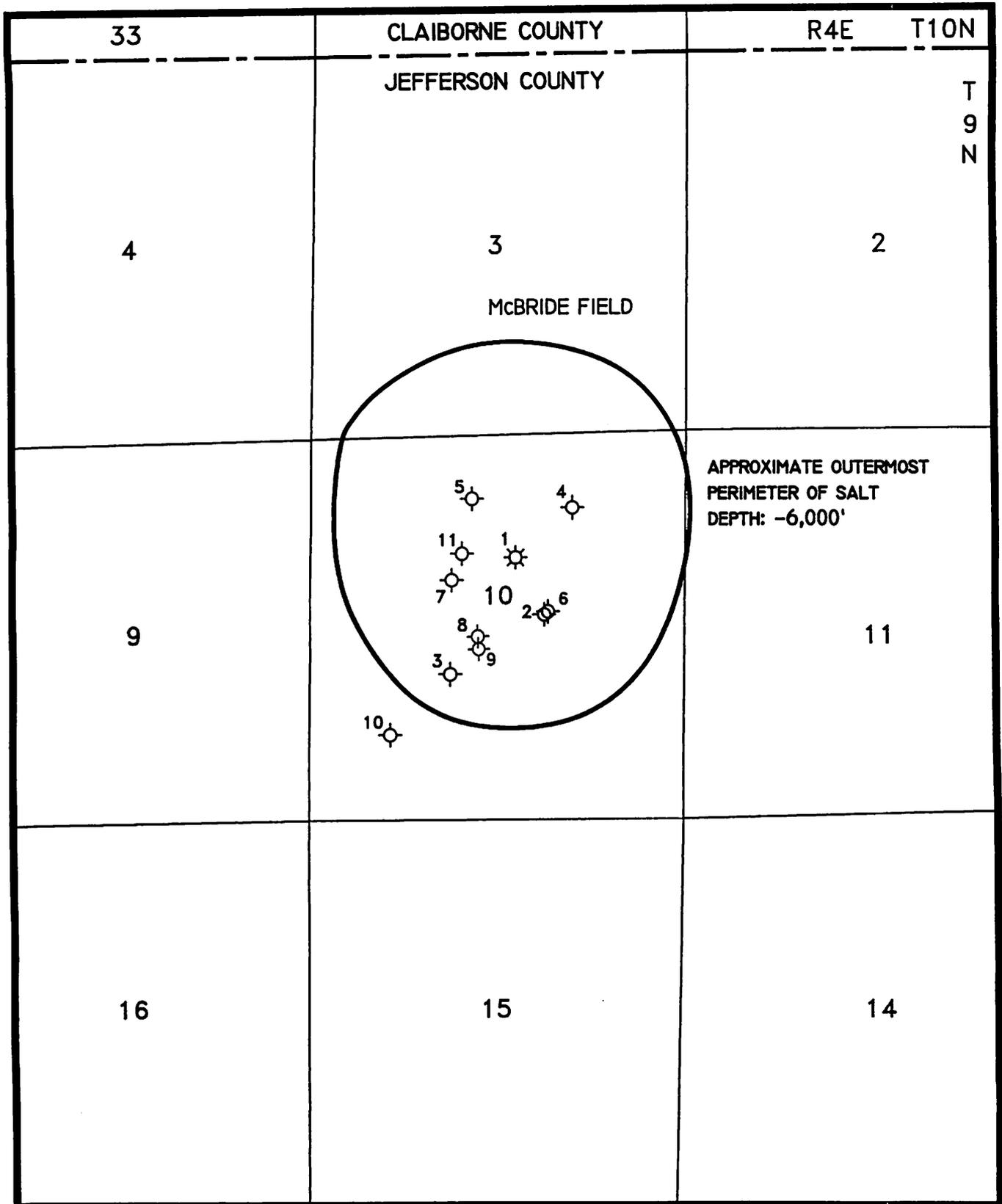
Cumulative Production (abandoned 12/1967)

	Gas (MCF)
McBride Field	
Cockfield	407

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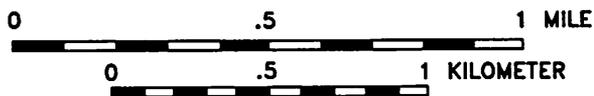
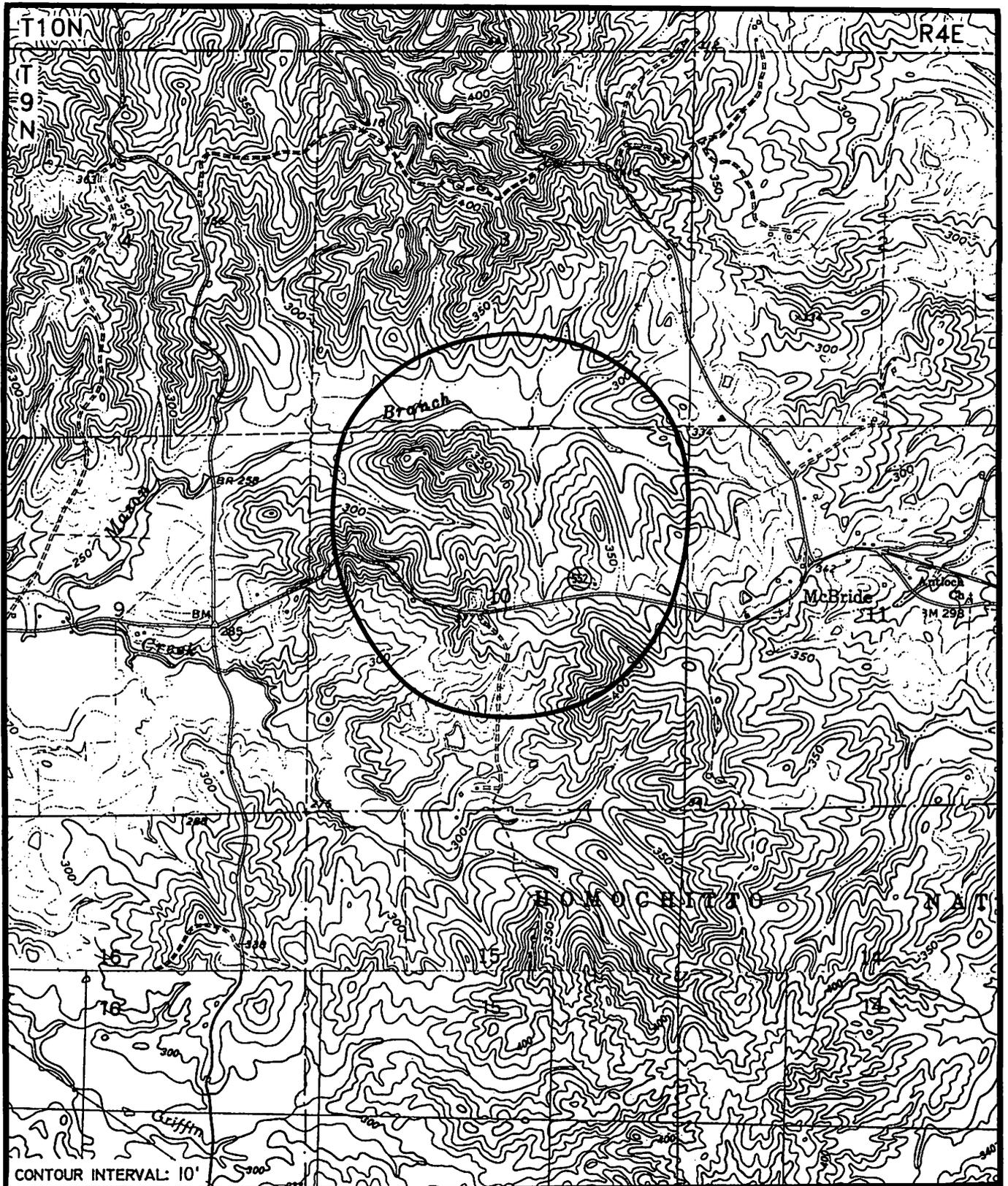
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McBRIDE DOME

FIGURE 93



MCBRIDE DOME

FIGURE 94

MCLAURIN SALT DOME

GENERAL DATA

Location: Sections 2,3,4,9,10,11,14,15-T2N-R13W, Forrest County, Mississippi

USGS topographic map(s): Dixie

Geophysical data: Gravity shows a large, strong minimum covering about a township area, centered in Section 10.

Estimated size and shape: Circular, 1.5 miles in diameter

Estimated base fresh water (10,000 ppm): -1,600'

Economic use: None to date

Shallowest known cap rock: 1,701' (Skelly Oil Company, Murray & Varnado No. 1 Love et al.)

Shallowest known salt: 1,932' (Danciger Oil & Refining Company No. 1 Love Petroleum Company)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Paluxy Formation (The Texas Company No. 1 Mrs. Annie R. M. Gilliam et al.)

Nearest oil or gas production: Ralston Field, 5 miles north, produced oil from the Upper Cretaceous Lower Tuscaloosa Formation.

DRILLING HISTORY

Discovery well: Danciger Oil & Refining Company No. 1 Love Petroleum Company

API well number: 23-035-00020

Location: 330' FNL and 330' (also found as 335') FEL of Section 10-T2N-R13W

Elevation: 355' GL (topographic map), 363' DF

Total depth: 1,960'

Reported formation tops: (scout ticket)

cap rock	1,705'
salt	1,932'

Geophysical logs: Schlumberger electrical log 320'-1,960'

Comments: Cored 1,963'-73', no recovery; 1,973'-76', recovered 6" salt; 1,976'-81', recovered 5' salt. Took 12 sidewall cores from 1,040'-946'. Sidewall cores of sand with asphaltic shows found at 1,605', 1,614', 1,615' and 1,618'. The log heading notes that the mud was extremely salty.

Completed: D&A 6/1948

Additional drilling:

Well: Skelly Oil Company, Murray & Varnado No. 1 Love et al.

API well number: 23-035-20004

Location: 373' FNL and 373' FEL of Section 10-T2N-R13W

Elevation: 363' DF (est.)

Total depth: 1,939'

Reported formation tops: (scout ticket)

Wilcox	1,656'
cap rock	1,701'
anhydrite	1,737'
salt	1,933'

Geophysical logs: Schlumberger Dual Induction-Electrical Log 1,575'-1,927'

Comments: Cored 1,701'-17', recovered 5.5' limestone, 6.5' shale; 1,717'-40', recovered 12' shale, 3' limestone, 1' anhydrite; 1,740'-61', recovered 24' (3' from previous core) anhydrite with asphaltic show of oil; 1,761'-98', recovered 37' anhydrite; 1,798'-836', recovered 38' anhydrite; 1,836'-97', recovered 61' anhydrite; 1,897'-939', recovered 39' anhydrite, 3' salt. Some sources refer to this well as a sulphur test.

Completed: D&A 2/1968

Well: The Texas Company No. 1 Mrs. Annie R. M. Gilliam et al.

API well number: 23-035-00234

Location: 330' FSL and 525' FEL of NE/4 of SE/4 of Section 34-T3N-R13W

Elevation: 345' GL, 357' DF, 358' KB

Total depth: 11,332'

Reported formation tops: (scout ticket)

Wilcox	2,488'
Midway	4,873'
Selma	5,810'
Austin	6,661'
base chalk	7,078'
Tuscaloosa	7,304'
marine Tuscaloosa	7,877'
Lower Tuscaloosa	8,310'
transitional zone	8,342'
massive (sand)	8,690'
Lower Cretaceous	8,900'
Paluxy	11,000'

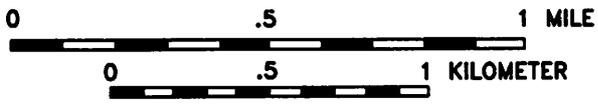
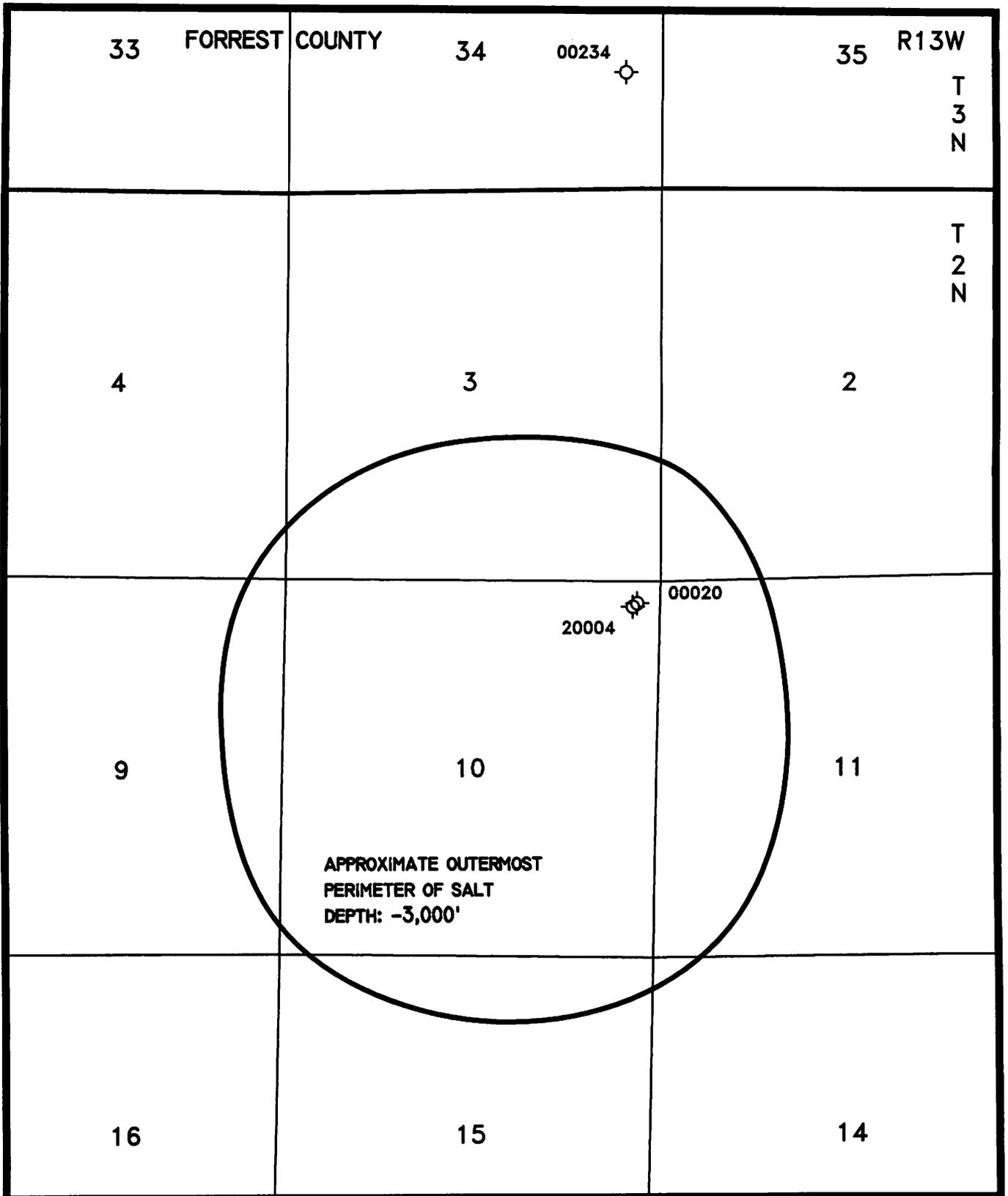
Geophysical logs: Schlumberger Electrical Log 50'-11,305'

Comments: Hole off approximately 3°, operator set a whipstock at 10,882'. Shot 44 sidewall cores from 2,581'-11,264', all no show. Mud log had no kicks. No conventional cores cut.

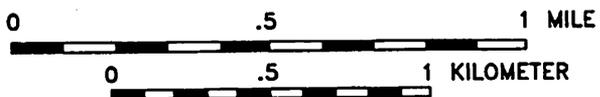
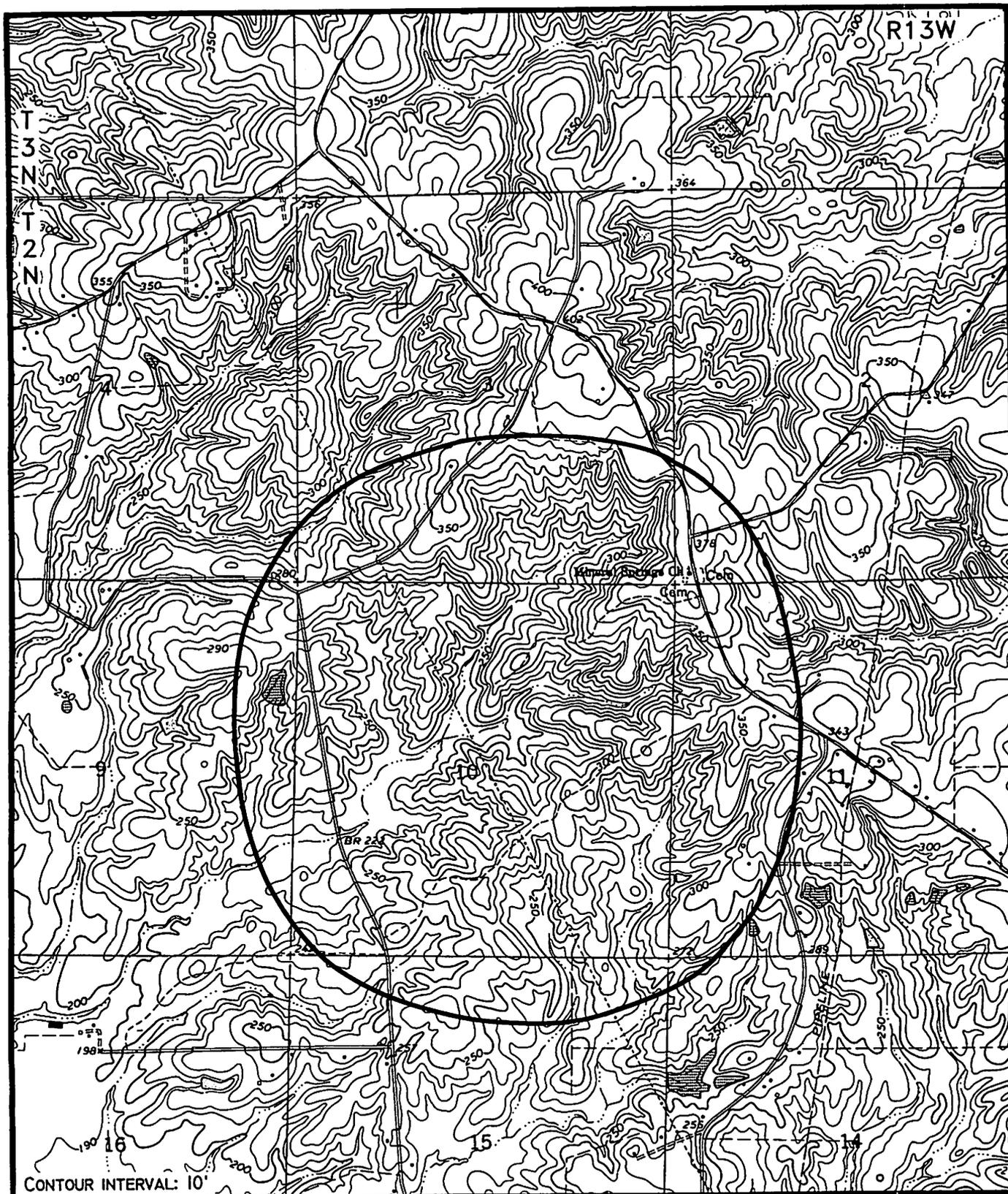
Completed: D&A 3/1953

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MCLAURIN DOME
FIGURE 95



MCLAURIN DOME

FIGURE 96

MIDWAY SALT DOME (SCANLON)

GENERAL DATA

Location: Sections 21,22,27,28,29,32,33,34-T4N-R15W, Lamar County, Mississippi

USGS topographic map(s): Hattiesburg SW, Oloh

Geophysical data: A large gravity minimum which covers about 1.5 townships and has over 50 milligals of relief. Original exploration was based on gravity followed by seismic.

Estimated size and shape: Nearly circular, 1.8 miles diameter

Estimated base fresh water (10,000 ppm): -1,800'

Economic use: None to date

Shallowest known cap rock: 1,655' (Sun Oil Company No. 1 Scanlon & Semmes)

Shallowest known salt: 2,522' (Sun Oil Company No. 1 Scanlon & Semmes)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Sun Oil Company No. 1 Sun Minerals 4-10)

Nearest oil or gas production: Tatums Camp Field, 1.5 miles south, produces from the Lower Cretaceous Hosston Formation.

DRILLING HISTORY

Discovery well: Sun Oil Company No. 1 Scanlon & Semmes

API well number: 23-073-00174

Location: 660' N and 660' E of center of Section 28-T4N-R15W, also found incorrectly as 660' N and E of SE/4 of Section 28, and 660' N and 660' E of NE/4 of Section 28

Elevation: 317' GL

Total depth: 4,024'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Heterostegina	550'
Vicksburg	715'
Wilcox	1,300'
Cretaceous fossils (Selma?)	1,623'
anhydrite	1,655'-2,522'
salt	2,522'

Geophysical logs: "No electric log available" (Mellen)

Comments: Some streaks of asphalt were reported in the anhydrite. This well was the first discovery of a salt dome in Mississippi.

Completed: D&A 1/1937

Additional drilling:

Well: Paco and Wanete Oil Company No. 1 Newman Lumber Company

API well number: 23-073-00137

Location: 2,440' FSL and 2,630' FEL of Section 21-T4N-R15W

Elevation: 267' GL (topographic map), 273' (?) (scout ticket)

Total depth: 3,520'

Reported formation tops: (scout ticket)

marine Oligocene	780'-800'
Vicksburg	1,040'-56'
Jackson	1,330'-50'
Moody's Branch	1,440'-60'
Minden	1,510'-30'
Wilcox	2,440'-50'

Geophysical logs: Schlumberger 1,870'-2,928'

Comments:

Completed: D&A 9/1934

Well: Sun Oil Co. No. D-15 Scanlon-Semmes (drilled as R. B. Parker (the surface owner) D-15)

API well number: 23-073-00175

Location: 850' FEL and 1,540' FSL of Section 28-T4N-R15W

Elevation: 372' GL

Total depth: 1,843'

Reported formation tops:

cap rock 1,626' (originally reported as Selma)

Geophysical logs: logged according to Mississippi State Oil and Gas Board well file (may refer to drillers log)

Comments: This was a core test in which the drill stem got stuck and the well was junked and abandoned.

Completed: J&A 5/1941

Well: Sun Oil Company No. 1 Mrs. Katie L. Talley

API well number: 23-073-00184

Location: 660' West and 700' North of SE/corner of SE/4 of SW/4 of Section 28-T4N-R15W

Elevation: 375' GL (topographic map), 385' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 2,015'

Reported formation tops: (drillers log)

In normal sediments to total depth.

Geophysical logs:

Comments: The well lost returns while coring and it was decided to abandon the effort.

Completed: D&A 3/1937

Well: Oryx Energy Company (Sun Exploration & Production Company) No. 1 C. S. Warden

API well number: 23-073-20280

Location: 1,500' FSL and 1,700' FWL of Section 29-T4N-R15W

Elevation: 368' GL, 390' KB

Total depth: 14,000'

Reported formation tops:

Geophysical logs: Halliburton Logging Services, Inc. Dual Laterolog Microguard 6,915'-13,595'

Comments: The salt gel mud in the hole when logged may indicate near proximity to the dome. In Sligo at total depth.

Near the bottom of the hole at 13,987' measured depth, true vertical depth is 13,977' and the bottom of the hole is located 125' S and 297' E of the surface location.

Completed: D&A 4/1989

Well: Southeastern Drilling Fund, Inc. No. 1 Mary Pepper Foy
API well number: 23-073-20127

Location: 1,600' FNL and 1,293' FWL of Section 33-T4N-R15W

Elevation: 282' GL, 294' DF, 295' KB

Total depth: 6,545'

Reported formation tops:

cap rock? 5,880'

salt? 5,955'

Geophysical logs: Dresser Atlas Dual Induction Focused Log 537'-6,543'

Comments: Location also reported as 1,600' S and 1,293' E of NE/corner of SW/4 of NW/4 of Section 29. This location is probably incorrect as the well was supposedly drilled to test asphaltic oil shows reported in the Sun Oil Company's numbers 3 and 4 Mrs. Katie L. Talley. Casing was set and perforated at 5,755'-76', 5,794'-822' and 5,920'-50'. Tests were non-commercial.

Completed: D&A 6/1973

Well: Sun Oil Company No. 2 Mrs. Katie L. Talley

API well number: 23-073-00185

Location: 230' FNL and 1,920' FWL of Section 33-T4N-R15W

Elevation: 400' GL (topographic map), 402' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 3,034'

Reported formation tops: (drillers log and scout ticket)

Heterostegina 898'

cap rock 2,726'

anhydrite 3,034'

Geophysical logs:

Comments: Sun ran two DST's in the cap rock to test asphaltic shows seen in the cores. It was also reported that there were zones of good porosity in the cap rock.

Completed: D&A 5/1937

Well: Sun Oil Company No. 3 Mrs. Katie L. Talley

API well number: 23-073-00186

Location: 1,600' FNL and 1,350' FWL of Section 33-T4N-R15W

Elevation: 382' GL (topographic map), 388' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 6,588'

Reported formation tops: (drillers log)

Lower Cretaceous 6,010'

anhydrite 6,588'

Geophysical logs: Schlumberger 490'-6,588'

Comments: Steffey reported the rocks at 4,390' were dipping at 35°-55° and giving some hole problems. Drillstem test

5,645'-50', recovered 40' mud and 8" asphalt; 5,645'-740', poor seat; 5,650'-740', recovered drilling mud and 9 joints muddy fresh water; 5,795'-856', recovered 6 joints drilling mud; and 5,934'-59', recovered 150' saltwater. Mellen reported asphaltic sands 5,643'-805' in the massive Tuscaloosa and 6,010'-47' in the Lower Cretaceous. Total depth in anhydrite.

Completed: D&A 8/1937

Well: Sun Oil Company No. 4 Mrs. Katie L. Talley

API well number: 23-073-00187

Location: 2,200' FNL and 1,350' FWL of Section 33-T4N-R15W

Elevation: 368' GL, 374' (?) (scout ticket)

Total depth: 8,673'

Reported formation tops:

Heterostegina 1,030'

Selma 5,140' (driller)

salt 8,650'

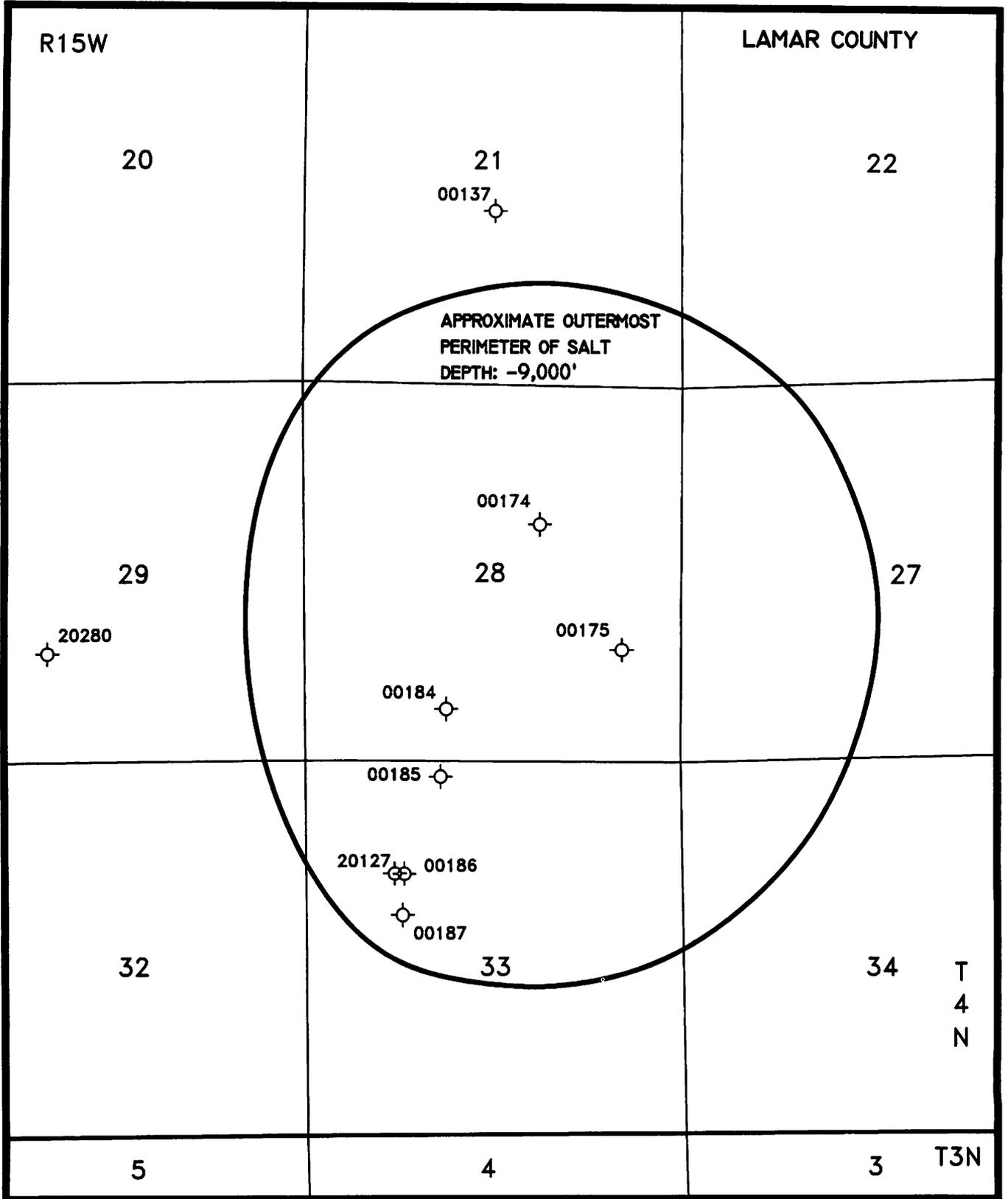
Geophysical logs: Schlumberger 1,500'-7,818'

Comments: At the time this well was drilled it set the state depth record.

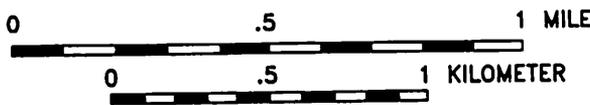
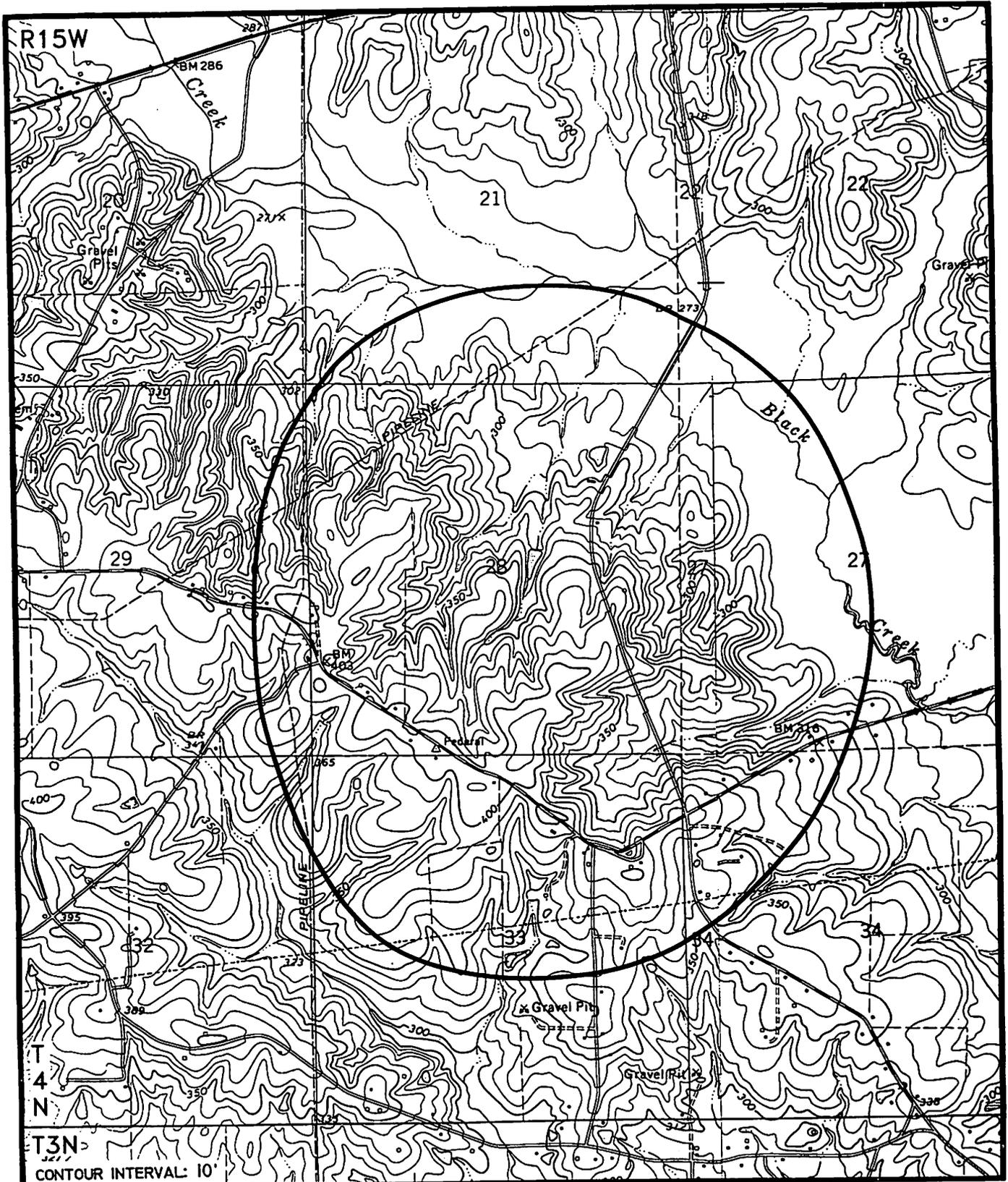
Completed: D&A 2/1938

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MIDWAY DOME
FIGURE 97



MIDWAY DOME
FIGURE 98

MONTICELLO SALT DOME**GENERAL DATA**

Location: Sections 25,26,35,36-T7N-R10E, Lawrence County, Mississippi

USGS topographic map(s): Nola

Geophysical data: The gravity minimum associated with this dome covers an area greater than one township and has an amplitude of approximately 25 milligals.

Estimated size and shape: Circular, 1.25 miles in diameter

Estimated base fresh water (10,000 ppm): -3,400'

Economic use: None to date

Shallowest known cap rock: 2,256'

Shallowest known salt: 2,750'

Oldest formation penetrated within one mile of dome: Middle Eocene Zilpha Formation

Nearest oil or gas production: Monticello Field, 2.5 miles east, produces from the Lower Cretaceous Sligo and Hosston formations.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 James A. Cox

API well number: 23-077-00006

Location: 760' FNL and 660' FEL of Section 35-T7N-R10E

Elevation: 293' GL, 303' DF

Total depth: 2,771'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg Limestone 1,238'-1,380'

Moody's Branch 1,543'

Moody's Branch Green Sand	1,557'
Yegua	1,568'
Wautubbee	1,708'
Camerina	1,790'
Kosciusko	1,918'
Zilpha	2,098'
white coral lime	2,222'
cap rock	2,256'
salt	2,750'

Geophysical logs: Schlumberger electrical log 88'-2,310'

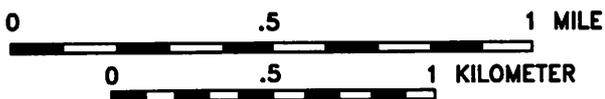
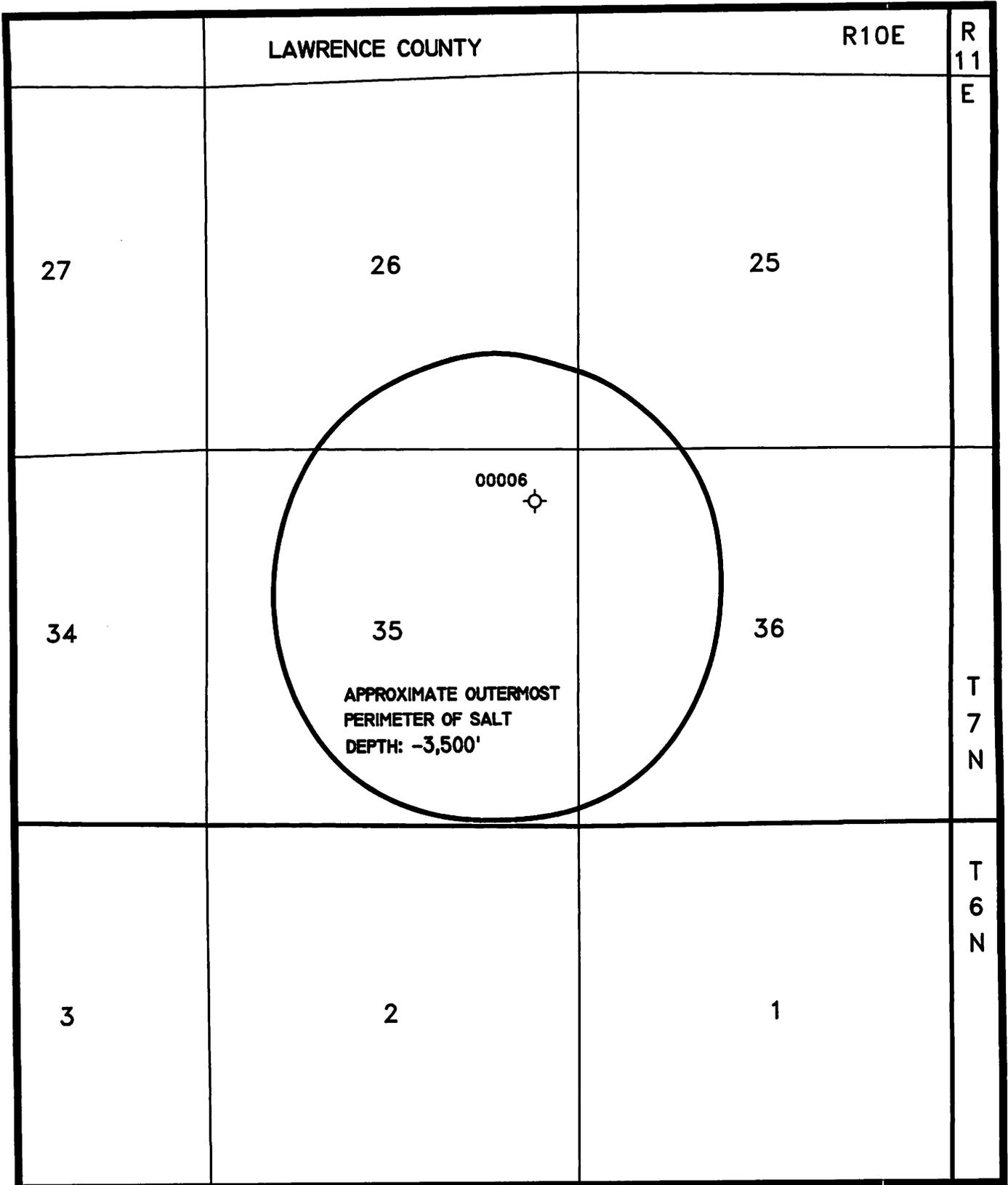
Comments: "A thinned Cane River (approximately equivalent to the Zilpha, Winona and, in part, Tallahatta formations) section is reflected in the Cox well." (Mellen)

Completed: D&A 9/1943

Additional drilling: None; the closest well to the dome is approximately 2 miles to the east-southeast.

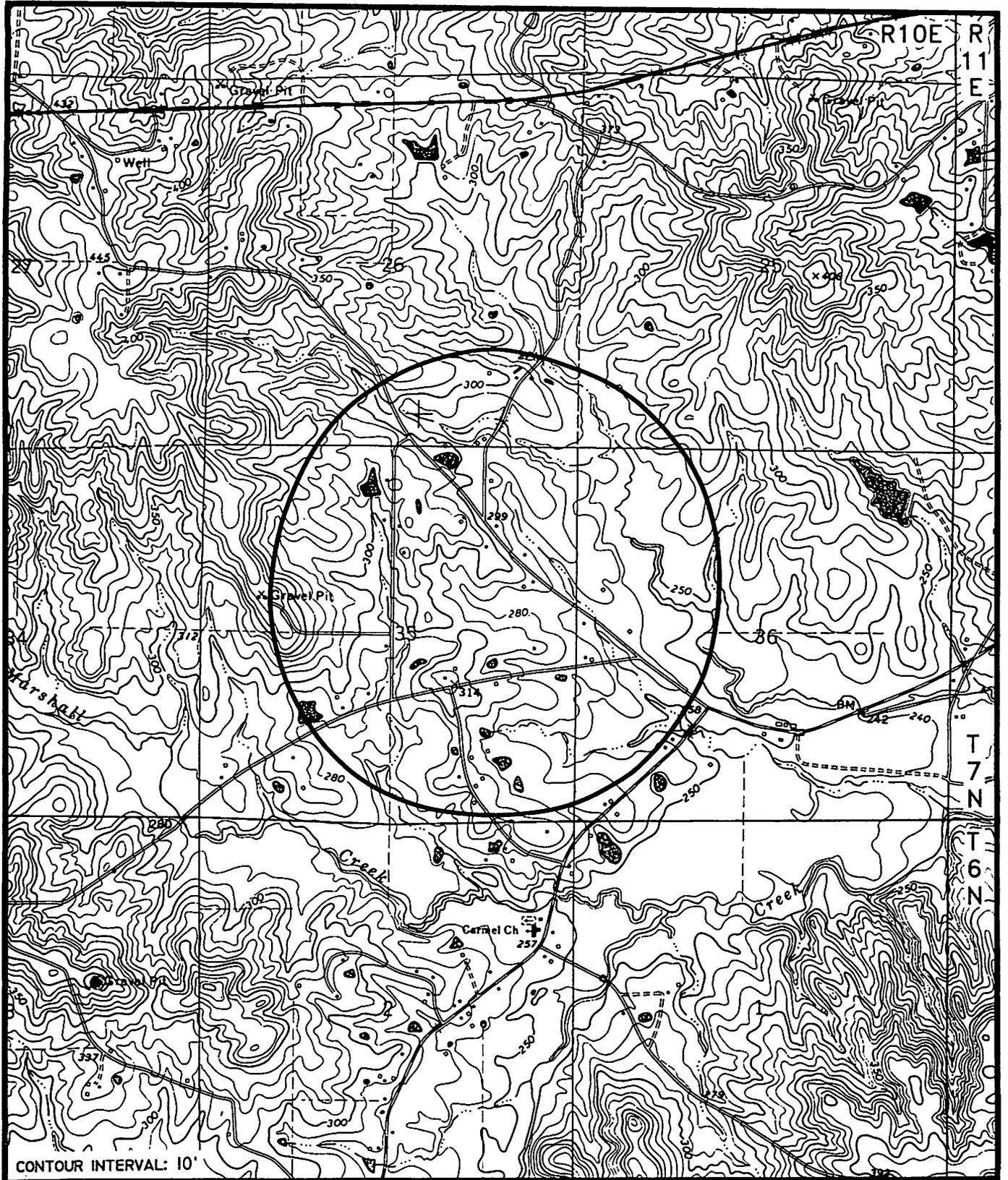
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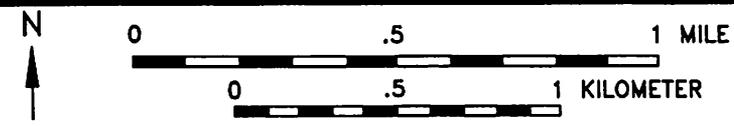


MONTICELLO DOME

FIGURE 99



CONTOUR INTERVAL: 10'



MONTICELLO DOME
FIGURE 100

MOSELLE SALT DOME

GENERAL DATA

Location: Sections 29,30,31,32-T7N-R13W, Jones County, Mississippi

USGS topographic map(s): Moselle

Geophysical data: Gravity shows a large minimum, covering approximately one township, with 60 milligals of relief.

Estimated size and shape: Elongate north-south, 0.8 mile east-west diameter, 1.3 miles north-south diameter

Estimated base fresh water (10,000 ppm): -2,300'

Economic use: Oil production on north flank

Shallowest known cap rock: 2,120' (Gulf Refining Company No. A-1 S. O. Lowry)

Shallowest known salt: Not reached

Oldest formation penetrated within one mile of dome: Upper Jurassic Cotton Valley Formation (Strago Petroleum No. 1 Bradley 5-7)

Nearest oil or gas production: Crackerneck Field produces from the Lower Cretaceous Hosston Formation on the north flank of the dome.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. A-1 S. O. Lowry

API well number: 23-067-00136

Location: 660' S and 665' W of NE/corner of Section 31-T7N-R13W

Elevation: 284' GL

Total depth: 2,294'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg limestone	805'-865'
Moodys Branch	1,053'
Yegua	1,070'
Wautubbee	1,242'(?)
Camerina limestone	1,285'-1,349'
Kosciusko	1,383'
Zilpha	1,570'
Tallahatta	1,670'
Wilcox	1,942'
cap rock	2,120'
anhydrite	2,194' (sample)

Geophysical logs: Schlumberger electrical log 132'-2,112'

Comments:

Completed: D&A 11/1943

Additional drilling:

Well: Dynamic Production, Inc. No. 1 Myex-Francis D. Harrell et al.

API well number: 23-067-20402

Location: 1,530' S and 2,205' W of NE/corner of Section 30-T7N-R13W

Elevation: 316' GL, 327' DF, 328' KB

Total depth: 10,521'

Reported formation tops:

chalk 6,067'

Eutaw 7,465'

Lower Tuscaloosa 9,006'

Geophysical logs: Schlumberger Phasor Induction/SFL BHC Sonic Gamma Ray 2,708'-10,515', Litho-Density Compensated Neutron Gamma Ray 2,708'-10,360', MSDip Computation 7,900'-10,360'

Comments:

Completed: D&A 4/1992

Well: Oryx Energy Company No. 1 Anderson Wallace Estate

API well number: 23-067-20375

Location: 1,830' FWL and 2,115' FNL of Section 30-T7N-R13W

Elevation: 333' GL, 358' DF, 359' KB

Total depth: 14,040'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway 5,013'

Selma chalk 5,928'

Lower Tuscaloosa 9,054'

Paluxy 10,766'

Mooringsport 12,091'

base Ferry Lake 12,555'

Sligo 13,155'

Hosston 13,498'

Geophysical logs: Schlumberger Dual Induction-SFL 3,090'-14,034', Litho Density Compensated Neutron 9,100'-14,032'

Comments: Discovery well for Crackerneck Field. Completed for 469 BOPD, 162 MCFGPD, 0 BW, 20/64" choke, 97# TP, 460# CP, 26° gravity from Hosston sand perforations 13,515'-89'. The well was reworked on 8/22/1992 to Hosston perforations 13,467'-589' and 13,652'-68' for 385 BOPD, 104 MCFGPD, 0 BW, pumping, 90# CP, 270:1 GOR.

Completed: 12/1991

Well: Strago Petroleum (TXO Production Corp) No. 1
Bradley 5-7

API well number: 23-067-20209

Location: 2,082' FNL and 1,906' FEL of Section 5-T6N-R13W

Elevation: 189' GL, 211' DF, 213' KB

Total depth: 15,050'

Reported formation tops:

Geophysical logs: Dresser Atlas Dual Induction Focused Log 3,126'-15,022', Minilog 8,400'-15,030', Densilog Neutron Gamma Ray 8,400'-15,026', BHC Acoustilog Gamma Ray 9,400'-14,980', dipmeter

Comments: Operator set casing and attempted to complete from perforations 13,376'-970'. The scout ticket has no formation tops but does give the driller's TD as 15,050' in the Cotton Valley.

Completed: D&A 2/1986

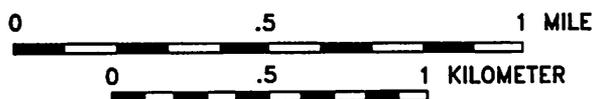
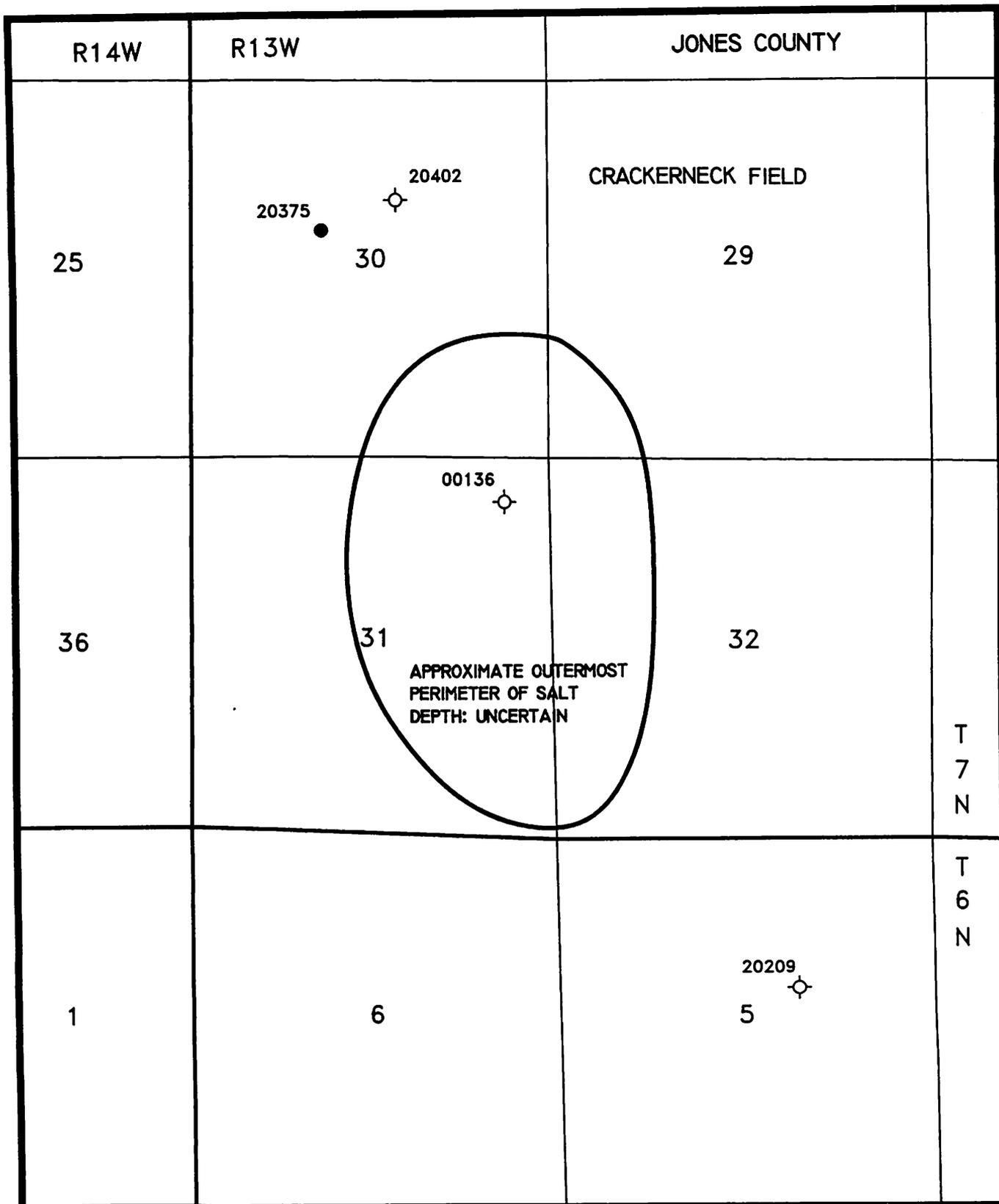
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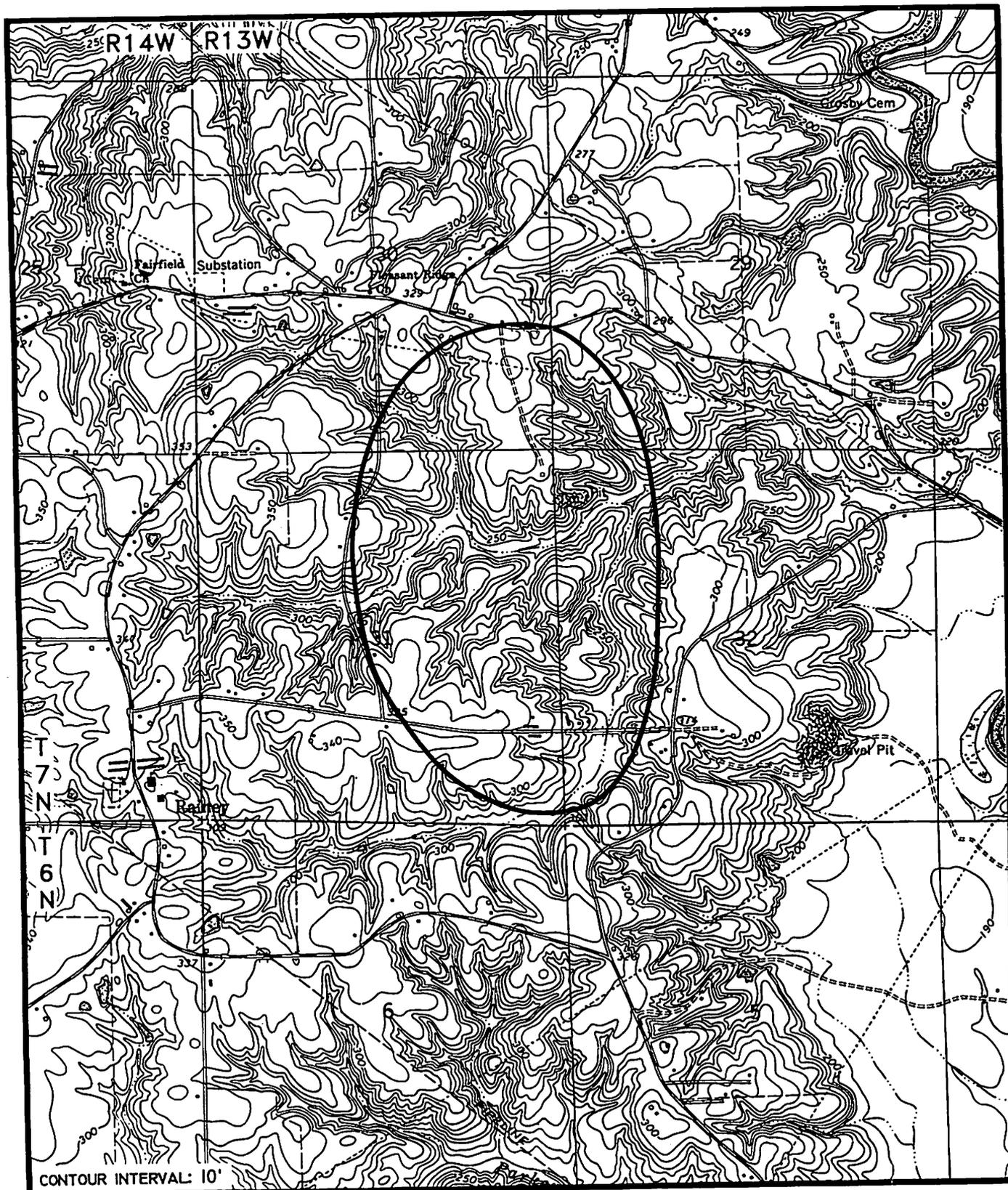
PRODUCTION

Cumulative Production to 1/1/1995

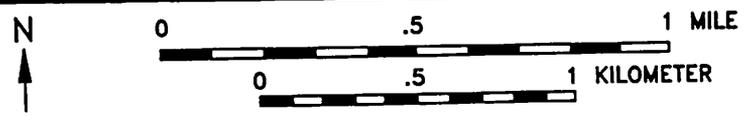
	Oil (Barrels)	Gas (MCF)
Crackerneck Field		
Hosston	222,000	61,017



MOSELLE DOME
FIGURE 101



CONTOUR INTERVAL: 10'



MOSELLE DOME
FIGURE 103

NEW HOME SALT DOME (SERVICE)**GENERAL DATA**

Location: Sections 5,6,7,8-T10N-R13W, Smith County, and Sections 4,9-T10N-R13W, Jasper County, Mississippi

USGS topographic map(s): Bay Springs, Soso

Geophysical data: Gravity shows a local minimum with a cap rock maximum.

Estimated size and shape: Nearly circular, 1.5 miles in diameter

Estimated base fresh water (10,000 ppm): -3,800'

Economic use: None to date

Shallowest known cap rock: 1,520' (Gulf Refining Company No. 1 H. D. Stringer)

Shallowest known salt: 2,578' (Lone Star Producing Company No. 1 H. E. Stone)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Lone Star Producing Company No. 1 H. E. Stone)

Nearest oil or gas production: Soso Field, 3 miles south, produces from Upper Cretaceous Eutaw and Tuscaloosa formations, Lower Cretaceous Washita-Fredericksburg, Paluxy, Mooringsport, Rodessa and Hosston formations, and the Upper Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 J. (D.?) F. Dykes

API well number: 23-129-00119

Location: 770' N and 600' E from SW/corner of SE/4 of NW/4 of Section 5-T10N-R13W

Elevation: 418' GL

Total depth: 2,020'

Reported formation tops: (Mellen)

cap rock 1,830'

anhydrite 2,002'

Geophysical logs: Schlumberger electrical log 160'-1,880'

Comments: Scout card states lost returns in the cap rock while drilling.

Completed: D&A 8/1943

Additional drilling:

Well: Exploro Corporation No. 1 W. R. Ishee

API well number: 23-129-00105

Location: 826' N and 261' E of SW/corner of NE/4 of SE/4 of Section 5-T10N-R13W

Elevation: 399' GL, 404' DF

Total depth: 1,933'

Reported formation tops: (drillers log)

cap rock 1,749'

anhydrite 1,850'

Geophysical logs: "...but logged to only 1,602'" (Mellen)

Comments: The Mississippi State Oil and Gas Board well file states they drilled 81' of anhydrite and drilled 2' in a cavity, 1,931'-33', at total depth, and reported asphalt shows in the cap rock. Sulphur test

Completed: D&A 7/1944

Well: Gulf Refining Company (Exploro Corporation) No. 1 H. D. Stringer

API well number: 23-129-00271

Location: 100' N and 100' E of SW/corner of NW/4 of SE/4 of Section 5-T10N-R13W

Elevation: 379' GL

Total depth: 1,730'

Reported formation tops: (drillers log)

cap rock 1,520'

anhydrite 1,691'

Geophysical logs:

Comments: According to the scout ticket, "Gulf took over well after encountering saturated cap rock 1,525'-85' and soft cap rock with scattered oil stains 1,585'-1,651'. Set 7" csg. at 1,523'. Set Halib. packer at 1,480' - swabbed black water w/ strong odor sulphur and very slight show oil, unable to lower fluid. Turned well back to Exploro who deepened to TD 1,730'." Sulphur test

Completed: D&A 7/1944

Well: Exploro Corporation No. 1 L. S. Trest

API well number: 23-129-00106

Location: 33' N and 125' E of SE/corner of NW/4 of SW/4 of Section 5-T10N-R13W

Elevation: 385' GL (topographic map), 440' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 2,131'

Reported formation tops: (drillers log)

cap rock 1,928'

Geophysical logs: "logged to 1,942'" (Mellen)

Comments: Sulphur test

Completed: D&A 7/1944

Well: Mosbacher Energy Company No. 1 B. L. Parker et al.

API well number: 23-129-20246

Location: 1,580' FEL and 150' FNL of Section 6-T10N-R13W

Elevation: 408' GL, 419' DF, 420' KB

Total depth: 8,310'

Reported formation tops:

Midway 4,420'

chalk 4,956'

probable Lower Cretaceous 8,200'

Eutaw 6,330'

Lower Tuscaloosa 7,854'

Geophysical logs: Schlumberger Dual Induction-SFL-BHC Sonic 1,030'-8,302', Lithodensity Compensated Neutron/Gamma Ray, Dipmeter

Comments:**Completed:** D&A 11/1991**Well:** Exploro Corporation No. 1 O. K. Ford**API well number:** 23-129-00104**Location:** 1,244' E and 204' S of NW/corner of Section 8-T10N-R13W**Elevation:** 395' GL (topographic map), 398' (?) (Mississippi State Oil and Gas Board well file), 380' (?) (scout ticket)**Total depth:** 1,822'**Reported formation tops:** (drillers log)

cap rock 1,602'

anhydrite 1,738'

Geophysical logs: "Logged to 1,622'" (Mellen)**Comments:** Sulphur test**Completed:** D&A 6/1944**Well:** Gulf Refining Company No. 1 O. P. Foley**API well number:** 23-129-00259**Location:** 516' S and 616' E of NW/corner of SE quarter of the NW quarter of Section 8-T10N-R13W**Elevation:** 401' GL, 411' DF**Total depth:** 6,341' 3rd sidetrack hole**Reported formation tops:** (scout ticket)

original hole

Vicksburg 437'

Yazoo 485'

Cockfield 742'

Camerina 1,016'

Zilpha 1,095'

Winona 1,188'

possible cap rock 2,140'

in anhydrite 2,359'-2,370' (core)

in salt 2,647'-2,717' (core) overhang

1st sidetrack hole

Midway 3,513'

2nd sidetrack hole

chalk 4,010' (driller)

3rd sidetrack hole

chalk 4,021' (driller)

Geophysical logs: Schlumberger electrical log: original hole 95'-2,255'; 3rd sidetrack hole 2,484'-6,332'**Comments:** Old well drilled deeper. Gulf completed D&A 1/1/1945, then began drilling again 7/23/1945. Original hole cored 2,359'-70', recovered 5' anhydrite; 2,647'-53', recovered salt; 2,709'-17', recovered 7' salt. Lost returns at 2,717', set cement plug, redrilled, lost returns again and re-cemented. Total depth original hole 2,717'.

Began 1st sidetrack hole at 1,965'. Drilling 1st sidetrack hole in salt at 3,369'. No base of salt depth noted. Cored 3,554'-65',

recovered 8' black shale. Deviation surveys showed 3 1/2° at 3,600', 4° at 3,730', and 3 1/2° at 3,790' off vertical. First sidetrack hole total depth 3,874'.

Set plug and began 2nd sidetrack hole at 3,545'. Cored 3,931'-37', recovered 5' black shale. Total depth 2nd sidetrack hole 4,468' in chalk.

Began 3rd sidetrack hole at 3,834'. Cored 4,875'-98', recovered 1' 6" chalk & shale; 5,004'-10', recovered 5' brown shale; 5,192'-200', recovered 5' gray shale and chalk; 5,339'-51', recovered 9' gray shale and chalk; 5,385'-93', no recovery; 5,393'-403', recovered 14' (reported) chalk and shale with sand spots, no show; 5,495'-505', recovered 8' chalk and shale; 5,617'-25', recovered 7' green sandy shale; 5,625'-38', recovered 5' red shale, 4' green sandy shale; 5,655'-62', recovered 5' gray sand with no show; 5,738'-58', recovered 1' gray sand, 10' sandy shale; 5,805'-15', recovered 7' gray sand with no show; 5,865'-75', recovered 1' 6" gray sand and gravel with no show, 6' 6" shale; 5,906'-24', recovered 8' sand with no show; 5,974'-86', recovered 12' white sand with no show; 5,986'-95', recovered 6' blue sandy shale; 5,995'-6,005', recovered 6" gray sand with no show; 6,005'-15', no recovery; 6,015'-25', recovered 5' red and green sandy shale; 6,025'-35', recovered (reported) 10' 6" red and green sandy shale, 4' gray sand with no show; 6,035'-45', recovered 6' green sand with no show; 6,045'-55', recovered 5' 2" green sand, 3' red and green sandy shale all with no show; 6,055'-65' (2 cores), recovered 6' 8" red and green sandy shale; 6,065'-85' (2 cores), recovered 20' green sand with no show; 6,085'-95', recovered 5' green sand, 1' gray sand, all with no show; 6,095'-105', recovered 9' red and gray sandy shale; 6,105'-13', recovered 5' gray sandy shale; 6,113'-20' recovered 5' gray sandy shale, 2' green shale; 6,120'-30' recovered 6' red and green shale; 6,182'-92', recovered 4' green and gray sand with no show; 6,239'-67' (3 cores), recovered 20' white sand with no show; 6,290'-302', recovered 4' white sand, 7' sand and shale, all with no show.

Completed: D&A 12/1945**Well:** Gulf Refining Company No. 1 E. G. King**API well number:** 23-129-00125**Location:** 695' S and 695' W of center of Section 8-T10N-R13W**Elevation:** 380' GL (topographic map), 402' (?) (scout ticket)**Total depth:** 8,302'**Reported formation tops:** (scout ticket)

Zilpha 1,583'

Winona 1,764'

Tallahatta 1,833'

Wilcox 1,986'

65' fault 2,010'

Midway 4,436'

chalk 5,006'

Eutaw	6,341'
Tuscaloosa	6,939'
marine Tuscaloosa	7,545'
"Davis zone"	7,673'
stringer sands	7,803'
massive sand	7,947'
Lower Cretaceous	8,296'

Geophysical logs: Schlumberger electrical log 80'-8,302'

Comments: Cored 6,375'-85', recovered 1' gray sand, 9' gray sandy shale; 6,385'-95', recovered 10' dark gray sandy shale; 6,395'-405', recovered 3' black shale; 6,405'-25' (2 cores), recovered 20' black shale; 6,425'-35', recovered 6" sandy limestone; 6,435'-45', recovered 1' sandy shale; 6,445'-50', recovered 1' black shale; 6,450'-70' (2 cores), recovered 19' sandy shale; 6,470'-90' (2 cores), recovered 11' gray shale; 6,490'-510' (2 cores), recovered 6' gray shale; 6,510'-50' (4 cores), recovered 17' gray shale; 6,550'-55', no recovery; 6,555'-65', recovered 3' gray sand with no show; 6,565'-75', recovered 10' gray sand with no show; 6,575'-85', recovered 1' gray shale; 6,710'-30' (2 cores), recovered 15' gray and black shale; 6,730'-40', recovered 6' black shale and 3' gray sand with no show; 6,740'-60' (2 cores), recovered 20' black shale; 6,760'-70', recovered 4' gray sand with no show; 6,772'-80', recovered 3' gray shale, 1' gray sand, 4' lime; 6,780'-90', recovered 9' gray shale with lime streaks; 6,790'-800', recovered 6' gray shale, 3' gray sand with no show; 6,800'-060' (7 cores), recovered 50' gray sand with no show; 7,790'-800', recovered 8' 6" black shale, 1' 6" sand with salty taste; 7,800'-10', recovered 1' gray sand with no show, 9' black shale with sand streaks; 7,810'-20', recovered 5' black shale, 5' gray sand with no show; 7,820'-30', recovered 6' gray sand with no show, 4' black shale; 7,830'-40', recovered 8' black shale, 2' gray sand; 7,840'-50', recovered 3' gray sand with no show; 7,850'-60', recovered 1' black shale; 7,860'-70', recovered 3' gray sand with no show; 7,870'-900' (3 cores), recovered 30' black shale; 8,170'-80', recovered 1' gray sand with no show; 8,180'-210' (3 cores), recovered 27' gray sand with no show; 8,210'-30' (2 cores), recovered 11' sand; 8,230'-277' (6 cores), recovered 46' gray sand with no show; 8,277'-87', recovered 6' gray sand with no show, 4' black shale; 8,287'-97', recovered 6' gray sand with no show; 8,297'-302', recovered 2' gray sand with no show, 3' green and red shale.

Completed: D&A 4/1945

Well: Lone Star Producing Company No. 1 H. E. Stone

API well number: 23-129-00135

Location: 330' N and 330' E of SW/corner of SW/4 of NE/4 of Section 8-T10N-R13W

Elevation: 369' GL, 384' DF, 386' KB

Total depth: 12,520'

Reported formation tops: (scout ticket)

base Vicksburg limestone	540'
Cockfield	785'

Cook Mountain	1,088'
Wilcox	1,651'
cap rock	2,400'
base cap rock	2,578'
salt (7'-10' driller)	2,598' (driller)
base salt	2,586'
chalk	4,400'
base chalk	5,767'
Lower Tuscaloosa	7,716'
Lower Cretaceous	8,230'
Paluxy	9,550'
Ferry Lake	11,130'
base Ferry Lake	11,272'
Rodessa	11,404'
Sligo	11,908'
Hosston	12,216'

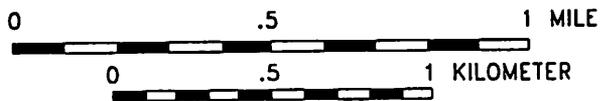
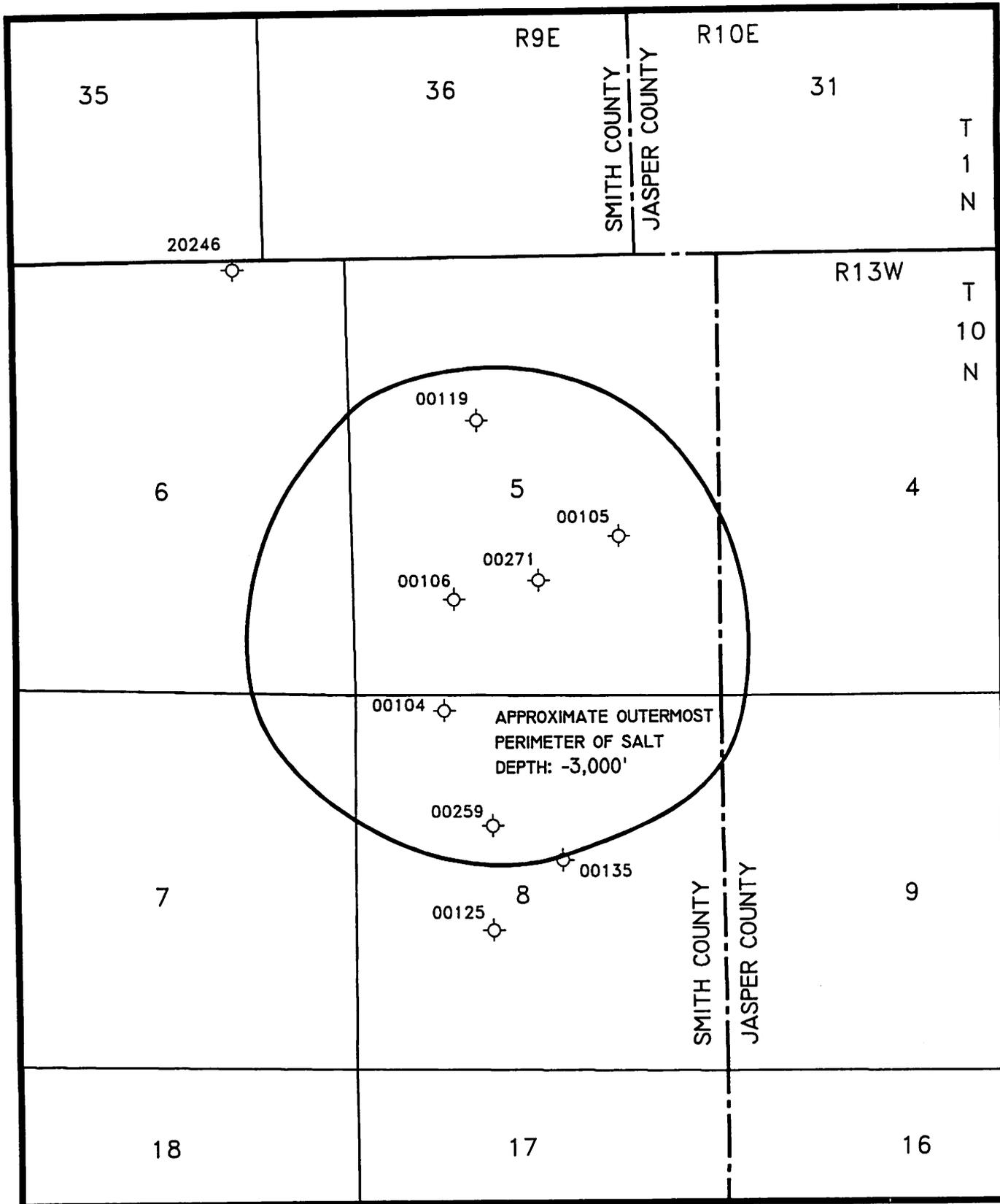
Geophysical logs: Schlumberger Induction-Electrical log 240'-12,511'

Comments: Circulated out oil show 2,260'-90'. Took 78 side-wall cores 2,030'-12,350', recovered cores with show oil from 2,261', 2,263', 2,881', 2,883', 2,885', 11,457' and 11,580'. Cores from 2,261' and 2,263' had yellow mineral fluorescence. Well was re-entered for attempted completion in 1964 by James Harris who perforated 2,824'-32', 2,852'-58' and 2,872'-82', acidized after having no fluid entry, swabbed salt water with no show, and plugged the hole D&A 4/1964.

Completed: D&A 6/1958

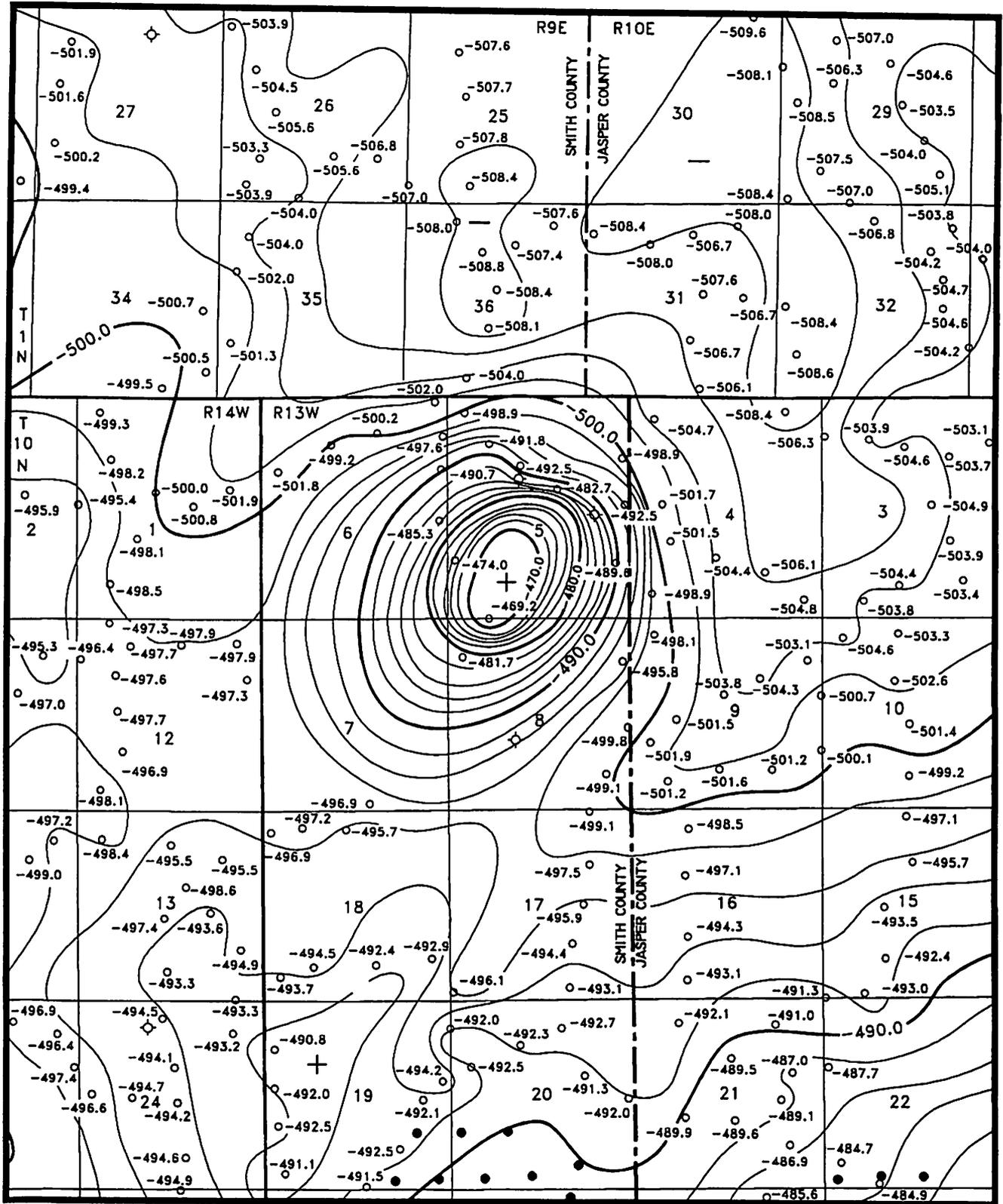
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NEW HOME DOME

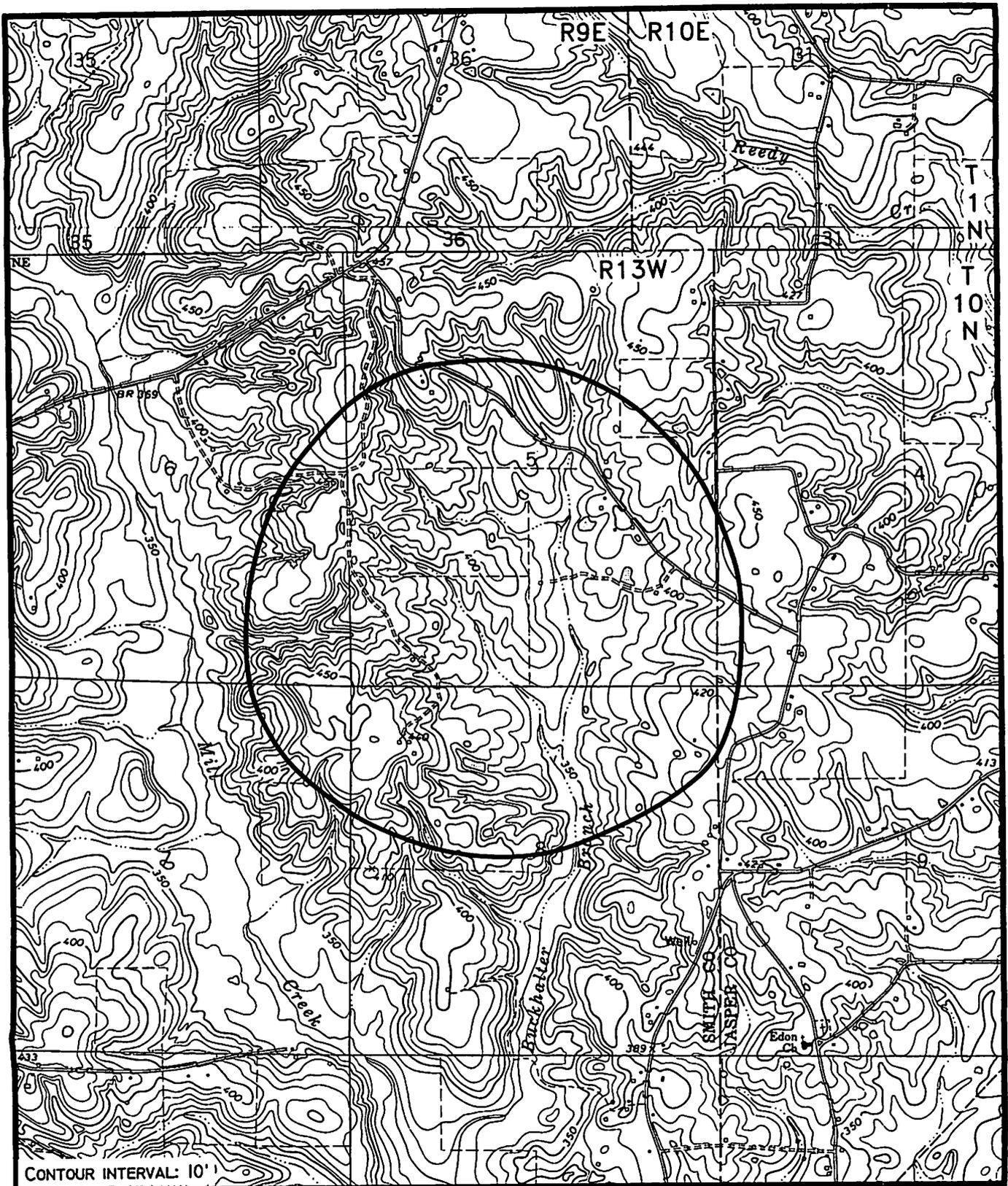
FIGURE 104



REDRAFTED FROM BOUGUER GRAVITY
MAP PROVIDED BY GRAVITY MAP
SERVICE, RICHMOND, TEXAS

NEW HOME DOME AREA

FIGURE 105



NEW HOME DOME

FIGURE 106

NEWMAN SALT DOME

GENERAL DATA

Location: Sections 11,12,13,14-T14N-R4E, Warren County, and Sections 13,14-T14N-R4E, Claiborne County, Mississippi

USGS topographic map(s): Big Black

Geophysical data: Regional gravity shows a minimum which covers slightly less than a township with about 5 milligals of relief.

Estimated size and shape: One mile diameter, approximately circular

Estimated base fresh water (10,000 ppm): -3,400'

Economic use: None to date

Shallowest known cap rock: 5,086'

Shallowest known salt: 5,108'

Oldest formation penetrated within one mile of dome:

Eocene Wilcox Formation

Nearest oil or gas production: Newman Field, 4 miles northeast, produces from the Upper Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Magnolia Petroleum Company No. 1 Brown & Paxton

API well number: 23-149-00035

Location: 425' FSL and 1,320' FWL of Section 12-T14N-R4E

Elevation: 95' GL (topographic map), 105' (?) (scout ticket)

Total depth: 5,401'

Reported formation tops: (scout ticket)

Jackson 677'

Cockfield 1,166'

Cook Mountain 1,765'

Sparta	1,950'
Tallahatta	3,140'
Wilcox	3,488'
anhydrite	5,086' (core)
salt	5,108' (core)

Geophysical logs: Schlumberger 198'-5,065'

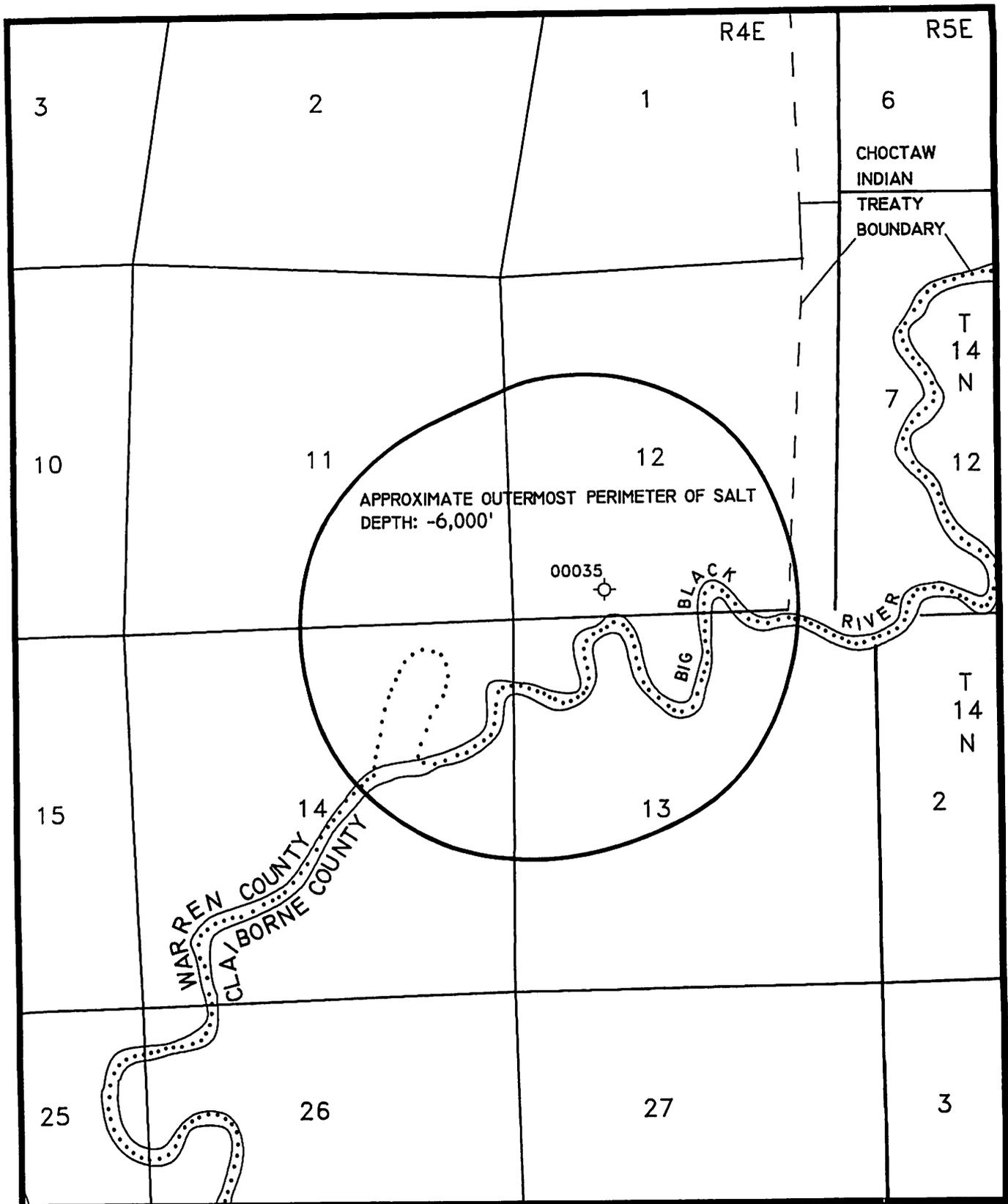
Comments: Scout card states "At a depth of 5,072' in cavernous dolomite lost returns Ran Schlg (Schlumberger) which recorded sli kick and some por from 4,965' to TD. Made 10 minute DST 4,953'-5,072', 3/8" chs Rec 1,830' SW and 550' Mud BHP 600#... Schlg. was run from 5,065', 5,073' equals 5,067' by Schlg." In salt at total depth. Hole deviated 4-4.5° from 3,286'-539'.

Completed: D&A 11/1940

Additional drilling: None

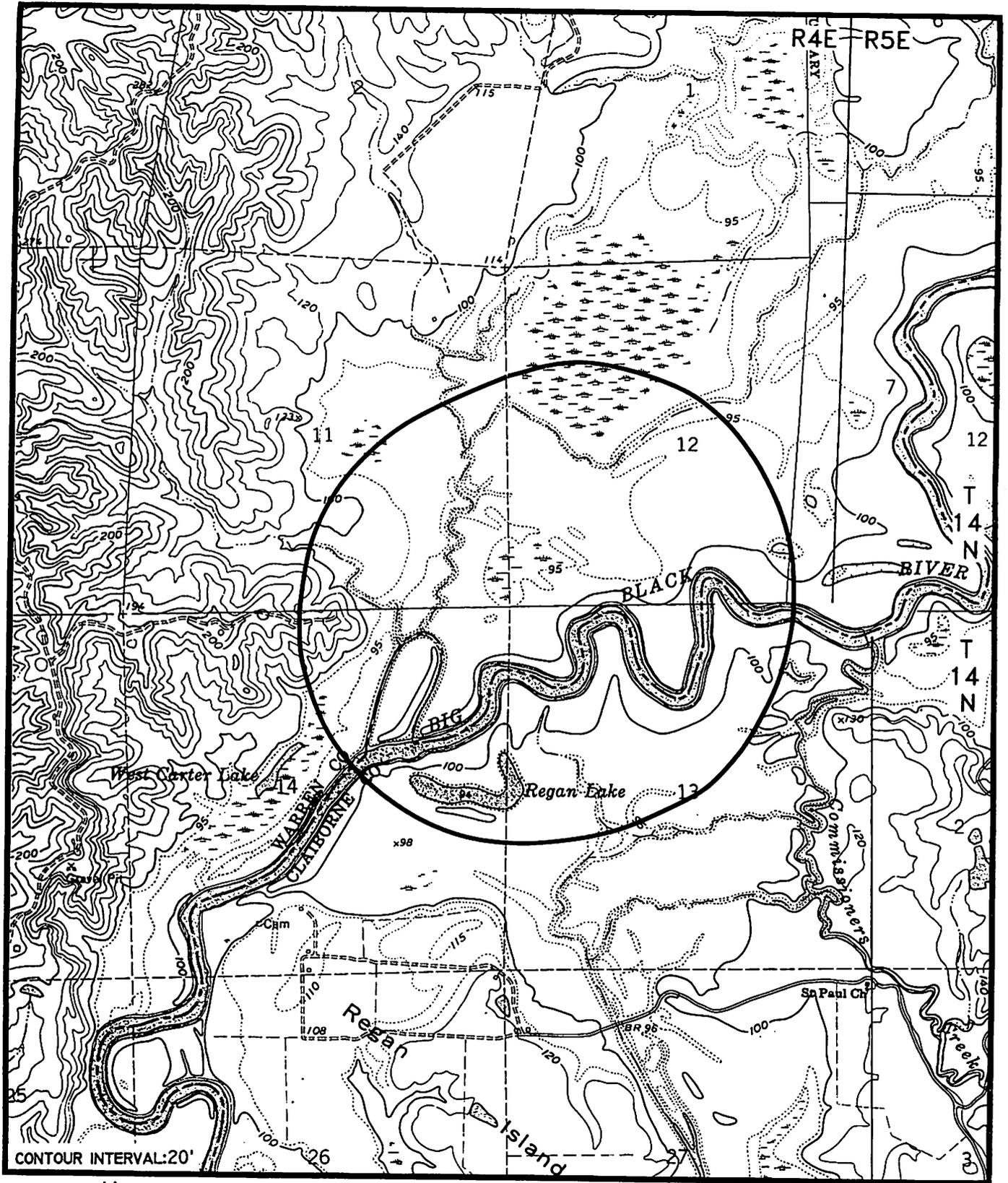
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NEWMAN DOME

FIGURE 107



NEWMAN DOME

FIGURE 108

OAKLEY SALT DOME

GENERAL DATA

Location: Sections 26,27,34,35-T5N-R3W, Hinds County, Mississippi

USGS topographic map(s): Edwards, Learned, Terry NW, Raymond

Geophysical data: Gravity shows a weak minimum that covers about a half township area and has 5 milligals of relief. A small maximum reflects cap rock. Seismic has been extensively used in the development of the flanking production.

Estimated size and shape: One mile in diameter, roughly circular

Estimated base fresh water (10,000 ppm): -2,900'

Economic use: Oil and gas production on the immediate flanks

Shallowest known cap rock: 2,484' (Blanco & Fairchild No. 1 Shuff)

Shallowest known salt: Not penetrated on crest

Oldest formation penetrated within one mile of dome: Upper Jurassic Cotton Valley Formation (Enserch No. 1 Prassel)

Nearest oil or gas production: West Raymond, Oakley Dome, and North Oakley Dome fields on the flanks of this dome produce from the Lower Cretaceous Paluxy, Mooringsport, Rodessa, and Pine Island formations.

DRILLING HISTORY

Discovery well: Sun Oil Company No. 1 H. T. Shuff

API well number: 23-049-00279

Location: 660' FSL and 660' FEL of Section 27-T5N-R3W

Elevation: 212' DF

Total depth: 2,634'

Reported formation tops: (scout ticket)

Yazoo	350'(?)
Moodys Branch	690'(?)
Cockfield	730'
Sparta	1,210'
Zilpha	1,795'
Winona	2,010'
Wilcox	2,256'
cap rock	2,613'

Geophysical logs: Schlumberger electrical log 75'-2,574'

Comments: Cored 2,575'-90' (4 cores), recovered 15' shale with thin sand partings which had good oil show, odor and fluorescence; 2,590'-94', recovered 2' shale; 2,956'-600', recovered 4' shale with 1" limestone at base with slight oil stain; 2,600'-06', recovered 1" limestone with oil stain, 4' shale; 2,606'-12', recovered 2' shale with limestone inclusions with slight oil stain; 2,612'-15', recovered 1' shale; 2,615'-17', recovered 6" cap rock with oil stain in veins; 2,617'-21', recovered 6" limestone with calcite veins with

slight oil stain; 2,621'-25' (2 cores), recovered limestone with calcite veins with slight oil stain and fair odor; 2,627'-29', recovered 3" limestone with calcite veins and sulphur odor; 2,631'-33', recovered 6" limestone with no show; 2,633'-34', recovered 6" limestone with sulphur odor.

Took 17 sidewall cores from 2,459'-568' with oil shows in sands at 2,507', 2,511', 2,522', and 2,524'. Took sidewall cores at 2,505', 2,515', 2,518' and 2,575' with no show, and 2,526' with oil odor and fluorescence.

Drillstem test at 2,494'-575' recovered drilling mud.

Completed: D&A 5/1949

Well: EP Operating Company (Inexco Oil Company) No. 1 C. J. Moran 22-16

API well number: 23-049-20160

Location: 660' FSL and 500' FEL of Section 22-T5N-R3W

Elevation: 245' GL, 273' DF, 274' KB

Total depth: 12,800'

Reported formation tops: (scout ticket)

Midway	5,564'
Selma	6,469'
Eutaw	7,148'
Tuscaloosa	7,723'
Mooringsport	10,990'
Ferry Lake	11,439'-11,640'
Pine Island	12,360'
Sligo	12,472'

Geophysical logs: Dresser Atlas Dual Induction Focused Log-BHC Acoustilog-Gamma Ray 3,230'-12,720', Diplog, Compensated Density Log/Compensated Neutron/Gamma Ray

Comments: Discovery well for North Oakley Dome Field. Completed flowing 312 BOPD, 162 MCFGPD, 10 BWPD, 14/64" choke, 40.4° gravity, 550# TP, 519:1 GOR from Rodessa perforations 11,799'-819'. No cores or drillstem tests reported.

Completed: 3/1988

Well: EP Operating Company No. 1 Beauchamp

API well number: 23-049-20172

Location: 330' FSL and 2,320' FWL of Section 26-T5N-R3W

Elevation: 234' GL, 258' KB, 259' KB

Total depth: 12,700'

Reported formation tops: (scout ticket)

Midway	5,534'
Selma	6,402'
Eutaw	7,159'
Mooringsport	11,040'
base Ferry Lake	11,536'

Pine Island 12,212'
Sligo 12,322'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 3,222'-12,687', Compensated Neutron-Litho-Density 10,100'-12,687', Dipmeter 10,100'-12,687'

Comments: Completed flowing 197 BOPD, 58 MCFGPD, 14/64" choke, 43.2° gravity, 50# FTP, GOR 294:1 from Rodessa perforations 11,693'-99' and 11,741'-65'. Worked over to Paluxy perforations 10,950'-62', 7/23/1990, pumping 140 BOPD, 0 MCFG, 0 BW, 41.5° gravity.

Completed: 9/1988

Well: Walter E. Sistrunk No. 1 Shuff-Beauchamp Unit

API well number: 23-049-00257

Location: 330' FNL and 330' FWL of NW/4 of SW/4 of Section 26-T5N-R3W

Elevation: 216' GL, 221' DF

Total depth: 3,240'

Reported formation tops: (scout ticket)

Moodys Branch	805'
Cockfield	870'
fault	1,109'
Sparta	1,335'
Tallahatta	2,274'
Wilcox	2,545'

Geophysical logs: Schlumberger Electrical log 211'-3,239'

Comments: Cored 2,880'-903', recovered 6" shale, 6" limestone with show oil, 1.5' shale, 3' sand with slight show oil, 6" limestone no show, 6" sand bleeding brown oil, 6' 9" shale, 1' 9" sand no show, 2.5' shale; 2,903'-44', recovered 41' shale, sandy shale, and sand no show.

Completed: D&A 11/1954

Well: Bass Enterprises Production Company, Inc. No. 1 D. L. Moak 27-6

API well number: 23-049-20178

Location: 1,850' FNL and 2,100' FWL of Section 27-T5N-R3W

Elevation: 254' GL, 279' DF, 281' KB

Total depth: 12,604'

Reported formation tops:

Midway	5,500'
chalk	6,393'
Eutaw	6,803'
Mooringsport	10,854'
Ferry Lake	11,412'
Rodessa	11,605'
Sligo	12,510'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 3,296'-12,598', Microlog 6,800'-12,575', Compensated Neutron-Litho-Density 6,800'-12,601'

Comments: Perforated 12,511'-45' tested tite; 12,202'-14' swabbed 100% oil; 12,148'-260' tested tite; 11,202'-67' tested tite.

Completed: D&A 12/1989

Well: Blanco Oil Company and Fairchild Oil Company, Inc. No. 1 H. T. Shuff

API well number: 23-049-00032

Location: 508' FWL and 472' FNL of SE/4 of SE/4 of Section 27-T5N-R3W

Elevation: 206' GL, 214' DF

Total depth: 2,527'

Reported formation tops: (scout ticket)

Wilcox	2,120'
cap rock	2,484'

Geophysical logs: Schlumberger Electrical Log 2,234'-527'

Comments: Cored 2,434'-50'. Took sidewall cores 2,484'-520', recovered heavy oil show from 2,484'-504'. Perforations 2,362'-68', recovered heavy oil cut mud, no pressure.

Completed: D&A 4/1963

Well: EP Operating Company, Inc. No. 1 A. B. Hebert 27-1

API well number: 23-049-20171

Location: 500' FNL and 500' FEL of Section 27-T5N-R3W

Elevation: 237' GL, 262' DF, 263' KB

Total depth: 12,320'

Reported formation tops: (scout ticket)

Midway	5,527'
Selma	7,100'
Eutaw	7,682'
Mooringsport	10,945'
Ferry Lake	11,364'
Rodessa	11,565'
Pine Island	12,279'

Geophysical logs: Atlas Wireline Services Dual Induction Focused Log BHC Acoustilog Gamma Ray 3,224'-12,316', Densilog Neutron Gamma Ray 9,500'-12,316', Diplog 9,800'-12,316'

Comments: Completed flowing 412 BOPD, 183 MCFGPD, 16/64" choke, 38.2° gravity, GOR 444:1, 575# FTP, from Rodessa perforations 12,224'-38'. In North Oakley Dome Field.

Completed: 7/1988

Well: EP Operating Company No. 1 T. J. Logan, Jr. et al.

API well number: 23-049-20150

Location: 850' FSL and 465' FWL of Section 27-T5N-R3W

Elevation: 240' GL, 269' DF, 270' KB

Total depth: 12,750'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway	5,510'
Selma	6,532'
Eutaw	7,212'
Lower Tuscaloosa	8,510'
Mooringsport	10,924'
Rodessa consolidated (pool)	11,248'

Rodessa middle (pool)	11,558'
Pine Island	11,890'
Sligo	11,990'
Hosston	12,470'

Geophysical logs: Dresser Atlas Dual Induction Focused Log Gamma Ray 10,800'-12,744', BHC Acoustilog Gamma Ray 10,800'-12,744', Directional Survey 10,150'-12,742', Diplog, Density Neutron Gamma Ray

Comments: Completed flowing 330 BOPD, 260 MCFGPD, 14/64" choke, 730# TP, GOR 786:1, 39° gravity, from lower Rodessa perforations 11,834'-64'. In West Raymond Field.
Completed: 5/1987

Well: Walter E. Sistrunk No. 1 H. T. Shuff Unit

API well number: 23-049-00258

Location: 760' FSL and 660' FEL of Section 27-T5N-R3W

Elevation: 205' GL, 213' DF

Total depth: 2,615'

Reported formation tops: (scout ticket)

Yazoo	295'
Moodys Branch	714'
Claiborne	734'
Sparta	1,183'
Winona	1,985'
Wilcox	2,225'

Geophysical logs: Schlumberger Electrical Log 210'-2,609'

Comments: Cored 2,425'-36', recovered 11' sandy shale and shaly sand, no show; 2,436'-54', recovered 15' shale and sand, no show; 2,454'-67', recovered 4' shale, 5' sand and silty sand with gas odor, and 4' shale; 2,497'-517', recovered 3' shale with gas odor on fresh breaks, 6" lignite; 2,517'-22', recovered 11' shale with gas odor on fresh breaks, 6" lignite with oil odor; 2,522'-26', recovered 1' shale with gas odor; 2,526'-43', recovered 2' shale, 4.5' lignite with oil odor, 8' sand with good gas and oil odor, brown oil stain and bright fluorescence; 2,543'-67', recovered 2' sand with gas and possible H₂S odor, 4' shale, 2.5' sand with gas and possible H₂S odor, 7' shale, 1' sand with good gas odor saturated with brown oil, 1.3' sand with gas odor and spotted oil stain, 0.7' sand with gas odor saturated with brown oil, 4" shale, 2.5' shale with sand inclusions saturated with brown oil, 1' sand saturated with brown oil, 2' shale, 1' sand saturated with brown oil, 1.5' shale, 1.5' sand saturated with brown oil, 2' shale; 2,567'-93', recovered 6.5' shale with slight oil stain, 5.5' sand saturated with brown oil, 2.5' shale with oil saturated sand streaks; 2,593'-615', recovered 3' sand with good oil stain, 3' shale with brown oil-stained sand streaks, 1' limestone with oil stain and odor in fracture and vugs, 2' shale with slight oil odor, 1' 4" limestone with vugs, saturated with brown oil, 8" limestone with slight oil show, 8.5' limestone saturated with brown oil, 2.5' limestone with fractures and few large vugs with oil stain.

Drillstem test 2,480'-97', recovered 100' clean 37.1° gravity oil, 20' mud cut oil, no water; 2,480'-97', recovered 60' of 37.1° gravity oil, 60' heavy oil cut mud, no water; 2,434'-43', recovered 1,880' H₂S water with fair gas odor and slight oil cut; 2,553'-67', recovered 20' dark brown oil, 24° gravity, 10' heavy oil cut mud, no water; 2,595'-605', recovered 15' oil, 150' sulphur water cut with oil; 2,596'-600', recovered 30' oil and gas cut mud.

Perforations 2,597'-99' flowed estimated 300 barrels sulphur water per day; 2,481'-97' flowed estimated 15-20 barrels (5% oil) water per hour; 2,481'-84' and 2,487'-92' swabbed fresh water with show oil; re-perforated 2,481'-84' and 2,487'-92' recovered fresh water; 2,462'-67' recovered no fluid.

Completed: D&A 8/1954

Well: Walter E. Sistrunk No. 1 H. T. Shuff

API well number: 23-049-00256

Location: 330' FSL and 330' FEL of SW/4 of NE/4 of Section 27-T5N-R3W

Elevation: 236' GL, 245' DF

Total depth: 3,220'

Reported formation tops: (scout ticket)

Moodys Branch	703'
Cockfield	753'
Sparta	1,367'
Tallahatta	2,303'
Wilcox	2,600'

Geophysical logs: Schlumberger Electrical Log 308'-3,214'

Comments: Cored 2,728'-38', recovered 1.5' fractured limestone with oil stain, slight gas odor, 1.5' sand with fair gas odor, 5' sand with no show; 2,905'-15', recovered 10' sand with no show.

Completed: D&A 11/1954

Well: Walter E. Sistrunk No. 1-A H. T. Shuff

API well number: 23-049-00259

Location: 410' FNL and 560' FWL of SE/4 of SE/4 of Section 27-T5N-R3W

Elevation: 212' DF

Total depth: 2,433'

Reported formation tops: (scout ticket)

Yazoo	317'
Moodys Branch	663'
Claiborne	710'
Sparta	1,255'
130' fault	1,263'
Winona	1,932'
Wilcox	2,225'

Geophysical logs: Schlumberger Electrical Log 203'-2433'

Comments: Discovery well for Oakley Dome Field. Completed pumping 30 BOPD from Wilcox perforations

2,400'-404', 29° gravity. Cored 2,380'-91', recovered 1' sand, 10' sandy shale, all no show; 2,391'-416', recovered 1' shale, 8' slightly sandy shale with gas odor, 6' sand with oil throughout, 6' sandy shale with slight gas odor; 2,416'-32', recovered 2.5' limestone with no show, 1' shale, 11' sand and shaly sand with oil stain, odor and fluorescence, 2' shale. Drillstem test 2,400'-404', recovered 960' green-brown gas cut oil, 35.5° gravity; 2,418'-26', recovered 1,080' gas cut oil, 29° gravity.

Completed: 11/1954

Well: EP Operating Company No. 1 D.G.N.B. Trustees 28-6
API well number: 23-049-20152

Location: 2,140' FNL and 1,822' FWL of Section 28-T5N-R3W

Elevation: 261' GL, 282' KB

Total depth: 12,195'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway	5,810'
Selma	6,730'
Mooringsport	11,040'
Ferry Lake	11,530'-11,730'
Rodessa	11,825'

Geophysical logs: Welex Dual Induction 3,240'-12,181', Long Spaced Sonic 3,240'-12,180', Spectral Density Dual Spaced Neutron 9,972'-12,178'

Comments: Completed pumping 99 BOPD, 60 MCFGPD, 8 BWPD, 39° gravity, GOR 606:1 from Rodessa perforations 11,830'-65' and 11,960'-79'.

Completed: 8/1987

Well: EP Operating Company No. 1 D.G.N.B. Trustees 28-7

API well number: 23-049-20132

Location: 2,140' FNL and 2,310' FEL of Section 28-T5N-R3W

Elevation: 257' GL, 275' DF, 276' KB

Total depth: 12,000'

Reported formation tops: (scout ticket)

Eutaw	7,310'
Tuscaloosa	8,520'-8,750'
Lower Cretaceous	9,290'
Paluxy	9,494'
Mooringsport	11,166'
Ferry Lake	11,442'
Rodessa	11,704'

Geophysical logs: Dresser Atlas Dual Induction Focused Log 6,738'-11,997', BHC Acoustilog Gamma Ray Proximity Log Minilog 6,738'-11,998', Densilog Neutron Gamma Ray 6,738'-11,997', NL McCullough Bond Cement Gamma Ray 9,600'-11,940'

Comments: Completed flowing 178 BOPD, 95 MCFGPD, 48/64" choke, 15# TP, from Rodessa perforations 11,828'-56'.

Completed: 7/1985

Well: EP Operating Company No. 1 D.G.N.B. Trustees 28-10

API well number: 23-049-20142

Location: 1,920' FSL and 2,143' FEL of Section 28-T5N-R3W

Elevation: 230' GL, 254' DF, 255' KB

Total depth: 12,100'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Rodessa	11,584'
1st Rodessa (sand)	11,680'-702'
2nd Rodessa (sand)	11,717'-752'
Rodessa A (pool)	11,770'-794'
Rodessa B (pool)	11,819'-886'

Geophysical logs: Welex Dual Induction Log 3,251'-12,029', Spectral Density Dual Spaced Neutron Log 3,251'-12,029', Velocity Log 3,251'-12,029', Acoustic Cement Bond Log 9,350'-11,936'

Comments: Completed flowing 123 BOPD, 76 MCFGPD, 35 BWPD, 18/64" choke, 300# TP, GOR 1,618:1, 38° gravity from Rodessa perforations 11,697'-702', 11,724'-34', 11,737'-50', 11,772'-77', 11,789'-94', and 11,824'-36'.

Completed: 5/1986

Well: EP Operating Company No. 1 D.G.N.B. Trustees 28-11

API well number: 23-049-20145

Location: 1,770' FSL and 1,802' FWL of Section 28-T5N-R3W

Elevation: 217' GL, 238' DF, 240' KB

Total depth: 12,203'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway	5,796'
Selma chalk	6,718'
Eutaw	7,922'
Mooringsport	11,021'
Ferry Lake	11,524'-11,709'
Rodessa	11,709'

Geophysical logs: Welex Dual Induction Long Spaced Sonic 3,237'-12,200', Spectral Density Dual Spaced Neutron 9,900'-12,199'

Comments: Completed flowing 172 BOPD, 349 MCFGPD, 7 BWPD, 14/64" choke, 50# FTP, GOR 2,027:1, 36.3° gravity from Rodessa perforations 11,802'-948'.

Completed: 2/1987

Well: Enserch Exploration, Inc. No. 1 Prassel Trust 28-15

API well number: 23-049-20122

Location: 820' FSL and 1,720' FEL of Section 28-T5N-R3W

Elevation: 230' GL, 256' DF, 258' KB

Total depth: 17,400'

Reported formation tops: (scout ticket)

Eutaw	7,350'
Lower Tuscaloosa	8,680'
Lower Cretaceous	8,990'
Paluxy	9,680'

Mooringsport	10,913'
Ferry Lake	11,400'
base Ferry Lake	11,588'
1st Rodessa sand	11,612'
Sligo	12,425'
Hosston	12,876'
Cotton Valley	15,640'

Geophysical logs: Schlumberger Dual Induction-SFL 6,712'-17,394', Long Spaced Sonic 6,712'-17,394', Microlog 7,300'-17,398', Compensated Neutron-Litho Density 7,300'-17,398', Electromagnetic Propagation Tool 7,300'-17,398'

Comments: Discovery well for West Raymond Field. Completed pumping 55 BOPD, 83 MCFGPD, 0 BWPD, 37.9° gravity, open choke, 15# TP, GOR 1,505:1 from Rodessa perforations 11,743'-49' and 11,808'-18'. Perforated 11,800'-31', tested salt water, squeezed. Attempted 66 sidewall cores, recovered 31 from 7,401'-12,737'. Recovered sidewall cores with show of oil from 11,387', 11,745', 11,748', 11,749', 11,788', 11,809', 11,810', 11,811', 11,815', 11,816', and 11,821'.

Completed: 1/1985

Well: EP Operating Company No. 1 Prassel Trust 28-16

API well number: 23-049-20143

Location: 600' FSL and 600' FEL of Section 28-T5N-R3W

Elevation: 245' GL, 269' DF, 270' KB

Total depth: 12,501'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway shale	5,670'
chalk	6,634'
base anhydrite	11,440'
Rodessa Consolidated (pool)	11,534'-11,678'
Lower Rodessa 'A'	11,952'-11,968'
Lower Rodessa 'B'	11,984'-12,015'
Lower Rodessa 'C'	12,027'-12,078'

Geophysical logs: Dresser Atlas Dual Induction Focused Log Gamma Ray 3,150'-12,499', Compensated Density Compensated Neutron

Comments: Completed flowing 529 BOPD, 116 MCFGPD, 1 BWPD, 16/64" choke, 1,300# TP, 39.6° gravity, GOR 220:1 from Lower Rodessa perforations 11,954'-65'.

Completed: 8/1986

Well: Enserch Exploration, Inc. No. 1 H. T. Shuff 28-9

API well number: 23-049-20130

Location: 1,820' FSL and 990' FEL of Section 28-T5N-R3W

Elevation: 243' GL, 263' DF, 264' KB

Total depth: 12,802'

Reported formation tops: (scout ticket)

Eutaw	7,311'
Lower Tuscaloosa	8,654'
Lower Cretaceous	9,010'

Paluxy	9,811'
Mooringsport	11,015'
Ferry Lake	11,325'
base Ferry Lake	11,486'
1st Rodessa sand	11,562'
Rodessa A Sand	11,627'
Rodessa B Sand	11,693'
Sligo	12,255'
Hosston	12,745'

Geophysical logs: Dresser Atlas Dual Induction Focused Log 6,600'-12,800', Densilog Neutron Gamma Ray 7,300'-12,800', minilog

Comments: Completed flowing 408 BOPD, 350 MCFGPD, 20/64" choke, 380# TP, 37.5° gravity, GOR 858:1 from Rodessa perforations 11,638'-58'.

Completed: 5/1985

Well: EP Operating Company No. 1 T. G. Wright 28-14

API well number: 23-049-20163

Location: 700' FSL and 1,980' FWL of Section 28-T5N-R3W

Elevation: 230' GL, 252' DF, 253' KB

Total depth: 12,208'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Selma	6,740'
Eutaw	7,406'
Upper Tuscaloosa	7,932'
Lower Tuscaloosa	8,700'
Mooringsport	11,080'
Ferry Lake	11,592'
Rodessa	11,782'

Geophysical logs: Welex Dual Induction 3,211'-12,207', Spectral Density Dual Spaced Neutron

Comments: Completed pumping 33 BOPD, 95 BWPD from Rodessa perforations 11,886'-12,020'. Cut five conventional cores from 11,900'-12,025', no details released.

Completed: 4/1988

Well: EP Operating Company No. 1 D.G.N.B. Trustees 33-8

API well number: 23-049-20147

Location: 2,040' FNL and 722' FEL of Section 33-T5N-R3W

Elevation: 197' GL, 213' DF, 214' KB

Total depth: 13,166'

Reported formation tops:

Midway	5,770'
Selma	6,650'
Eutaw	7,300'
Mooringsport	11,228'
Ferry Lake	11,720'
1st Rodessa sand	12,000'
Pine Island	12,630'
Sligo	12,760'

Geophysical logs: Welex Dual Induction Long Spaced Sonic 3,210'-13,163', Spectral Density Dual Spaced Neutron, Microlog, Dipmeter

Comments:**Completed:** D&A 1/1987**Well:** EP Operating Company No. 1 R. C. Prassel 33-1**API well number:** 23-049-20155**Location:** 670' FNL and 520' FEL of Section 33-T5N-R3W**Elevation:** 228' GL, 252' DF, 253' KB**Total depth:** 13,100'**Reported formation tops:** (Mississippi State Oil and Gas Board well file)

Selma chalk	6,632'
Eutaw	7,270'
Tuscaloosa	7,834'
Lower Tuscaloosa	8,626'
Mooringsport	11,066'
Ferry Lake	11,612'
base Ferry Lake	11,784'
Lower Rodessa 'A'	11,938'
Pine Island	12,080'
Sligo	12,190'

Geophysical logs: Dresser Atlas Dual Induction Focused Log BHC Acoustilog Gamma Ray 3,270'-13,052', Diplog, Density Log Neutron Gamma Ray**Comments:** Perforated 11,938'-46' recovered water. Completed flowing 160 BOPD, 38 MCFGPD, 15 BWPD, 10/64" choke, 750# TP, 115# CP, 38.8° gravity, GOR 232:1 from Mooringsport perforations 11,325'-55' and 11,368'-90'. Application to workover to Eutaw/Lower Tuscaloosa filed with Mississippi State Oil and Gas Board on 7/1/1992, perforations 8,124'-48'. No results ever filed. Perforations 8,124'-48' were listed as open on application to plug and abandon. P&A 2/6/1993.**Completed:** 1/1988**Well:** EP Operating Company No. 1 R. C. Prassel 33-2**API well number:** 23-049-20144**Location:** 100' FNL and 330' FWL of NW/4 of NE/4 of Section 33-T5N-R3W**Elevation:** 218' GL, 243' DF, 244' KB**Total depth:** 12,900'**Reported formation tops:** (Mississippi State Oil and Gas Board well file)

Selma	6,708'
Eutaw	7,366'
Lower Tuscaloosa	8,780'
Paluxy	9,648'
Mooringsport	10,996'
Ferry Lake	11,513'
base Ferry Lake anhydrite	11,701'
Rodessa Consolidated (pool)	11,701'-12,035'
Lower Rodessa	12,230'
Pine Island	12,396'
Sligo	12,516'

Geophysical logs: Schlumberger Dual Induction-SFL

3,205'-12,880', Litho Density/Compensated Neutron 10,350'-12,860', BHC Sonic 3,205'-12,846', Stratigraphic High-Resolution Dipmeter 11,000'-12,850'

Comments: Completed flowing 198 BOPD, 136 MCFGPD, no water, 10/64" choke, 675# TP, 39.2° gravity, GOR 687:1 from Rodessa perforations 11,859'-958'.**Completed:** 11/1986**Well:** C. F. and H. Oil Company No. 1 Stutts**API well number:** 23-049-00055**Location:** 330' E and 330' S of NW/corner of NE/4 of NE/4 of Section 34-T5N-R3W**Elevation:** 202' GL, 207' DF**Total depth:** 2,806'**Reported formation tops:** (scout ticket)

Moodys Branch	673'
Cockfield	710'
Cook Mountain	1,154'
Sparta	1,289'
Zilpha	1,840'
Tallahatta	2,060'
Wilcox	2,352'

Geophysical logs: Schlumberger Electrical Survey 246'-2,266'**Comments:** Cored 2,400'-34', recovered 2' sand, 5.5' shale, 1.5' fractured limestone, 6" shale, all no show; 2,434'-66', recovered 22.5' shale, 6.5' lignite; 2,466'-517', recovered 19' 2" shale, 12' sand with no show, 6" limestone with no show; 2,517'-32', recovered 11' sand with no show, 4' shale; 2,532'-49', recovered sand with pinpoint fluorescence, no odor, stain or taste; 2,565-82', recovered 8' sand with no show; 2,798'-806', recovered 2' fractured limestone with oil show, 3' sand with good H₂S odor, 2.5' sand with brown oil stain, odor and fluorescence, 6" limestone with oil stain, odor and fluorescence.**Completed:** D&A 11/1954**Well:** EP Operating Company No. 1 J. P. Crechale 34-7**API well number:** 23-049-20151**Location:** 1,826' FNL and 1,899' FEL of Section 34-T5N-R3W**Elevation:** 198' GL, 223' DF, 224' KB**Total depth:** 13,000'**Reported formation tops:**

Selma chalk	5,992'
Eutaw	6,974'
anhydrite	11,766'-11,840'
salt	11,926'-12,120'

Geophysical logs: Gearhart Dual Laterolog MSFL 12,257'-12,995', BHC Sonic 12,198'-12,993', Compensated Density Compensated Neutron Log 12,198'-12,993', Four-Electrode Dipmeter 12,322'-12,995'**Comments:** This well drifted 303' N 5°23'25" W, true vertical depth correction of 10', and was drilled along the salt

face. Salt was penetrated at two intervals. The anhydrite may show an anhydrite sheath or could be the Ferry Lake Formation. Correlations between this well and others in the area are difficult. The following zones were reported as testing non-commercial: 10,182'-212', 10,312'-42' both Paluxy, and 12,141'-54', 12,865'-961', and 12,927'-51' all Cotton Valley.

Completed: D&A 8/1987

Well: EP Operating Company No. 1 Carolyn Crechale 34-10

API well number: 23-049-20170

Location: 1,989' FEL and 2,310' FSL of Section 34-T5N-R3W

Elevation: 198' GL, 219' KB

Total depth: 12,815'

Reported formation tops:

Midway	5,530'
Selma	6,470'
Eutaw	7,093'
Mooringsport	11,070'
Ferry Lake	11,715'
Rodessa	11,920'

Geophysical logs: Welex Dual Induction Guard Log 3,211'-12,674', Dual Induction Long Spaced Sonic 3,211'-10,310', Spectral Density Dual Spaced Neutron 10,500'-12,674', Dipmeter

Comments: Well bore inclination >4° from 7,148'-total depth, >6° from 9,182'-total depth, 8°-9° from 10,700'-12,571', and 7.75° at 12,815'.

Completed: D&A 7/1988

Well: EP Operating Company No. 1 J. R. Shuff 34-4

API well number: 23-049-20139

Location: 900' FNL and 500' FWL of Section 34-T5N-R3W

Elevation: 209' GL, 234' DF, 235' KB

Total depth: 12,500'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Mooringsport	11,220'-11,308'
Rodessa 'A' Sand	11,884'-11,919'
Rodessa 'C' Sand	12,018'-12,038'

Geophysical logs: Welex Dual Induction 3,222'-12,473', Sonic 3,222'-12,204', Spectral Density Dual Spaced Neutron 10,000'-12,488', Microlog

Comments: Completed for 271 BOPD, 448 MCFGPD, 2 BWPD, 12/64" choke, 1,045# TP, GOR 1,653:1, 41° gravity, from Rodessa perforations 11,893'-909'.

Completed: 6/1986

Well: EP Operating Company No. 1 J. R. Shuff 34-6

API well number: 23-049-20146

Location: 2,084' FNL and 1,801' FWL of Section 34-T5N-R3W

Elevation: 212' GL, 237' DF, 238' KB

Total depth: 12,825'

Reported formation tops: (scout ticket)

Midway	5,495'
Selma chalk	6,472'
Eutaw	7,176'
Tuscaloosa	7,720'
Mooringsport	11,126'
Ferry Lake	11,548'-11,756'
middle Rodessa	12,092'
lower Rodessa	12,276'
Pine Island	12,438'
Sligo	12,596'

Geophysical logs: Schlumberger Dual Induction 3,228'-12,134' and 12,144'-12,782', Sonic 12,144'-12,782'

Comments: Completed for 255 BOPD, 434 MCFGPD, 1 BWPD, 14/64" choke, 785# TP, GOR 1,702:1, 42.5° gravity from Pine Island perforations 12,510'-20' and 12,530'-38'.

Completed: 2/1987

Well: EP Operating Company No. 1 C. C. Jones 35-3

API well number: 23-049-20156

Location: 500' FNL and 2,150' FWL of Section 35-T5N-R3W

Elevation: 221' GL, 246' DF, 247' KB

Total depth: 12,850'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Selma	6,446'
Eutaw	7,050'
Tuscaloosa	7,658'
Lower Tuscaloosa	8,406'
Mooringsport	10,754'
Ferry Lake	11,324'-11,518'
1st Rodessa sand	11,638'
Pine Island	12,220'
Sligo	12,350'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 3,222'-11,610'

Comments: Completed for 135 BOPD, 105 MCFGPD, 1 BWPD, 16/64" choke, 40.0° gravity, GOR 778:1, 188# TP from Rodessa perforations 11,639'-57', 11,726'-38', and 11,761'-71'. In Oakley Dome Field.

Completed: 11/1987

Well: EP Operating Company No. 1 C. C. Jones 35-5

API well number: 23-049-20164

Location: 990' FWL and 2,250' FNL of Section 35-T5N-R3W

Elevation: 202' GL, 231' DF, 232' KB

Total depth: 12,201'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Mooringsport	10,040'-11,605'
Rodessa	11,812'

Geophysical logs: Welex Dual Induction Long Spaced Acoustic Log 3,237'-12,098', Spectral Density Dual Spaced Neutron, Dipmeter

Comments: Cored 11,911'-12', recovered shaly sandstone; 11,912'-14', recovered white to gray sandstone; 11,914'-26', recovered red shale. A drillstem test from 11,250'-381' failed to get a packer seat. A drillstem test from 11,476'-82' recovered a very gas-cut emulsion of formation water, oil, and drilling mud.

Completed: D&A 2/1988

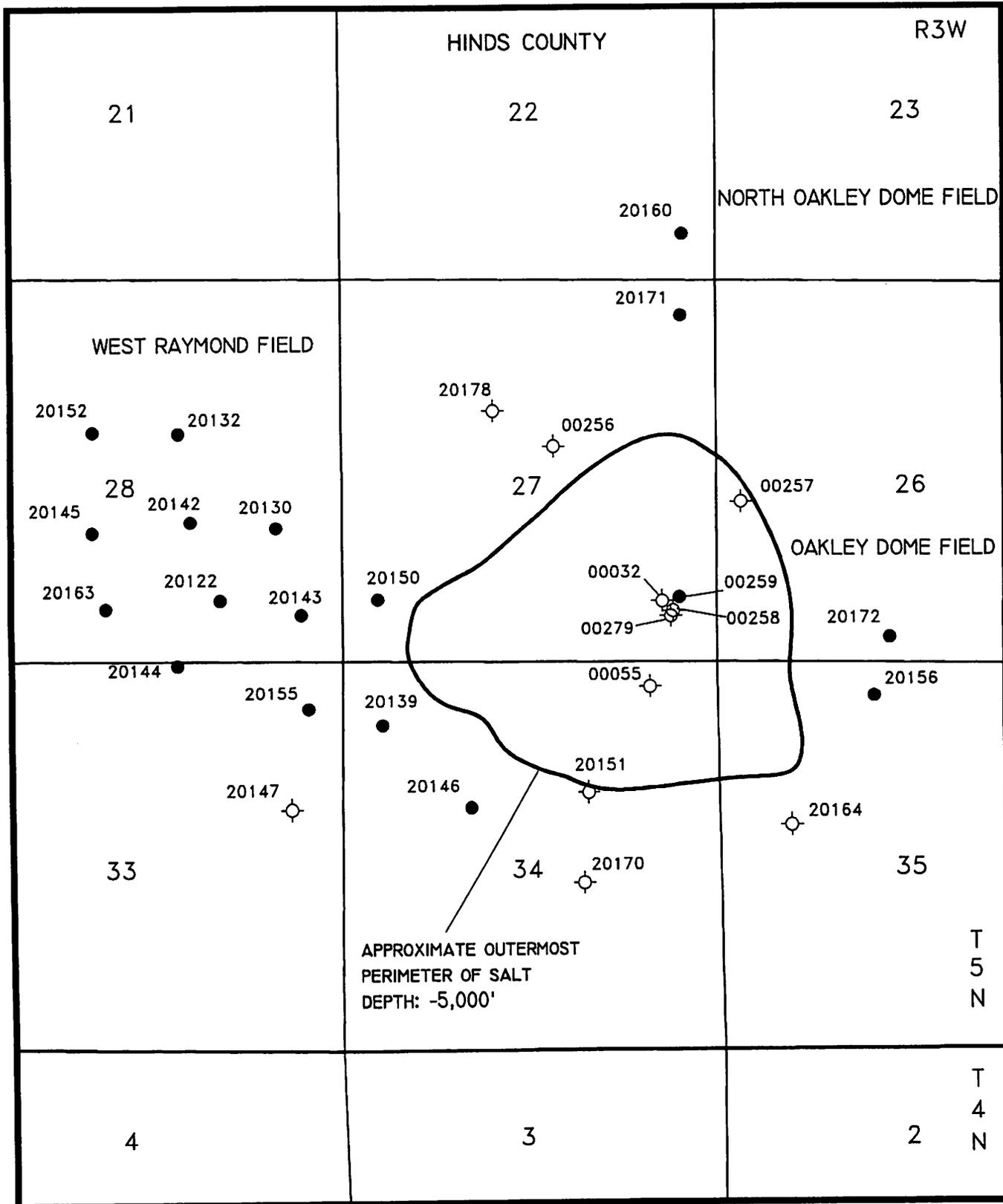
PRODUCTION

Cumulative Production to 01/01/1995

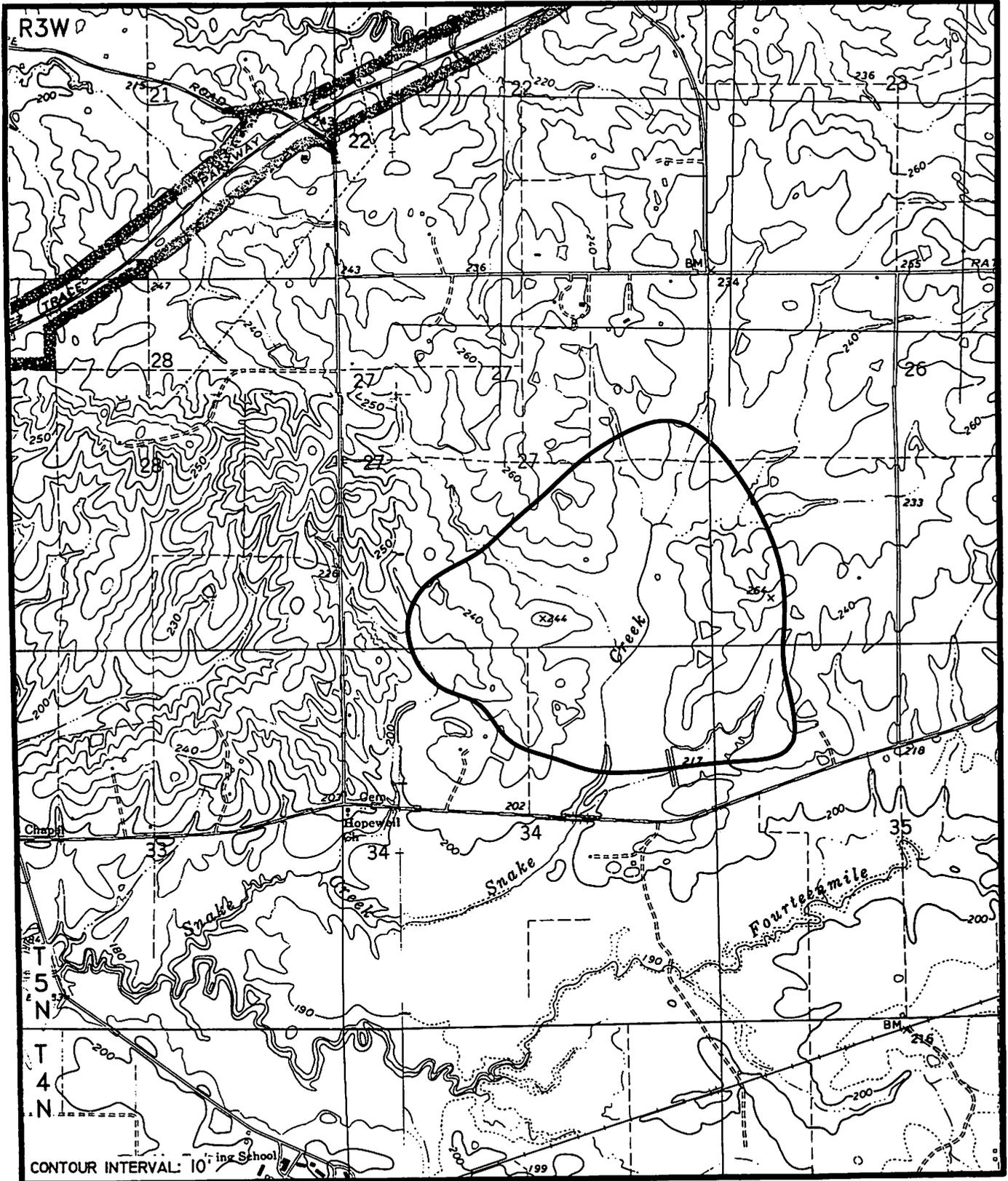
	Oil (Barrels)	Gas (MCF)
Oakley Dome Field		
Wilcox	3,670	0
Paluxy	1,842	421
Rodessa	87,917	28,298
North Oakley Dome Field		
Rodessa	103,384	7,693
West Raymond Field		
Mooringsport	38,631	7,962
Pine Island	72,423	149,536
Rodessa	1,918,460	1,411,667

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OAKLEY DOME
FIGURE 109



OAKLEY DOME
FIGURE III

OAK RIDGE SALT DOME

GENERAL DATA

Location: Sections 9,10,15,16-T17N-R5E, Warren County, Mississippi

USGS topographic map(s): Oak Ridge

Geophysical data: Regional Bouguer gravity shows a broad low relief (5+ milligals) gravity minimum, about one township in area, with a cap rock maximum.

Estimated size and shape: One mile in diameter, approximately circular

Estimated base fresh water (10,000 ppm): -3,200'

Economic use: None to date. Oak Ridge Field is just off the southwest flank of the dome.

Shallowest known cap rock: Top of cap rock not reported; by core it is near 5,060' (California Company No. 1 Board of Supervisors).

Shallowest known salt: 5,078' (California Company No. 1 Board of Supervisors)

Oldest formation penetrated within one mile of dome: Upper Jurassic Cotton Valley Formation (First Energy No. 1 Anderson Tully)

Nearest oil or gas production: Oak Ridge Field, 0.5 mile to the southwest, produces from the Upper Jurassic Cotton Valley Formation and the Lower Cretaceous Hosston and Rodessa formations.

DRILLING HISTORY

Discovery well: The California Company No. 3-1 Board of Supervisors

API well number: 23-149-00009

Location: 1,905' FNL and 640' FEL of Section 16-T17N-R5E

Elevation: 325' GL (topographic map), 349' DF

Total depth: 5,762'

Reported formation tops: (scout ticket)

Vicksburg	264'
Yazoo	488'
Moodys Branch	981'
Cockfield	1,003'
Cook Mountain	1,540'
Sparta	1,694'
Cane River	2,704'
Tallahatta	2,926'
Wilcox	3,303'
salt	5,078'

Geophysical logs: Schlumberger Electrical Log 244'-5,691'

Comments: Cored 5,056'-63', recovered 6 feet of fractured limestone, sand, and dolomite with oil staining in the fractures; 5,078'-110', recovered 6' salt; 5,686'-716', recovered

10' salt. Shows of oil were reported in the Wilcox. Drillstem tests at 4,611'-14.25' and 4,796'-806' recovered salt water. Drillstem test at 4,686'-97' recovered slightly salty water.

Completed: D&A 1/1955

Well: Union Oil Company of California No. 1 J. S. Terry 17-10

API well number: 23-149-20014

Location: 1,417' FSL and 1,350' FEL of Section 17-T17N-R5E

Elevation: 338' GL, 369' DF, 370' KB

Total depth: 11,485'

Reported formation tops:

Eutaw	7,255'
Lower Tuscaloosa	8,835'
base Ferry Lake	11,229'

Geophysical logs: Schlumberger Dual Induction-SFL 6,826'-11,479', dipmeter, Microlog, Compensated Neutron-Formation Density

Comments: Completed flowing 2,055 MCFGPD, 128 BCPD, 505 BWPD, 12/64" choke, 3,015# TP, 53° gravity, GCR 16,248:1, from Rodessa perforations 11,346'-64'. Cut 7 whole cores from 11,385'-478'. In Oak Ridge Field.

Completed: 1/1981

Well: Union Oil Company of California No. 1 Billy R. Brown et al. 20-11

API well number: 23-149-20012

Location: 2,329' FSL and 2,496' FWL of Section 20-T17N-R5E

Elevation: 279' GL, 305' DF, 306' KB

Total depth: 15,014'

Reported formation tops: (scout ticket)

Midway	5,794'
Eutaw	7,146'
Tuscaloosa	7,680'
Lower Tuscaloosa	8,525'
Lower Cretaceous	8,650'
Mooringsport	10,500'
base Ferry Lake	11,105'
Rodessa	11,200'
Sligo	12,010'
Hosston	12,375'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 103'-15,008', Compensated Neutron-Formation Density, dipmeter

Comments: Discovery well for Oak Ridge Field. Completed flowing 3,146 MCFGPD, 168 BCPD, 15/64" choke, 2,438# TP, 56° gravity, GCR 18,726:1 from Rodessa perforations 11,250'-70'.

Completed: 9/1980

Well: Union Oil Company of California No. 2 Billy R. Brown et al. 20-11

API well number: 23-149-20030

Location: 2,315' FSL and 2,518' FWL of Section 20-T17N-R5E

Elevation: 279' GL, 305' DF 306' KB

Total depth: 17,470'

Reported formation tops:

Eutaw	7,126'
Lower Tuscaloosa	8,511'
Mooringsport	10,490'
base Ferry Lake	11,091'
Pine Island	11,804'
Sligo	11,992'
Cotton Valley	14,763' (?)

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 6,662'-17,447', EPT, Microlog, Compensated Neutron-Formation Density Gamma Ray

Comments: Completed flowing 1,764 MCFGPD, 41 BCPD, 201 BWPD, 12/64" choke, 660# TP, 51° gravity, GCR 43,024:1 from Hosston perforations 12,362'-94'. Cored 10,663'-93' (Mooringsport), and 14,764'-94' and 14,794'-814' (Hosston). No details of cores released. Perforated 16,276'-626' and 16,686'-98' (Cotton Valley by Mississippi State Oil and Gas Board well file and Hosston by scout ticket) tested salt water; 16,279'-629' (over all) tested salt water; 14,772'-82' flowed approximately 500 MCFGPD, 50# TP. In Oak Ridge Field.

Completed: 9/1982

perforations 11,774'-800' tested no flow. Actual bottom hole location is 2,076' W and 1,049' S of the surface location.

Completed: D&A 9/1981

Well: First Energy Corporation-MOEPSEI No. 1 Anderson-Tully Company 21-14

API well number: 23-149-20051

Location: 789' FSL and 1,537' FWL of Section 21-T17N-R5E

Elevation: 321' GL, 348' KB, 349' KB

Total depth: 17,987'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Eutaw	7,294'
Lower Tuscaloosa	8,591'
Lower Cretaceous	8,740'
Mooringsport	10,578'
base Ferry Lake	11,194'
Sligo	12,112'
Hosston	12,305'
Cotton Valley	14,966'

Geophysical logs: Schlumberger Dual Induction-SFL/Long Spaced Sonic 6,784'-17,620', Microlog 11,000'-16,850', EPT 11,00'-16,837', Litho-Density/Compensated Neutron/Gamma Ray 11,000'-17,950'

Comments:

Completed: D&A 1/1987

PRODUCTION

Cumulative Production to 01/01/1995

	Oil (Barrels)	Gas (MCF)
Oak Ridge Field		
Rodessa	362,628	11,329,128
Mooringsport	6,268	484,837
Sligo	2,751	65,559
Hosston	6,703	397,688
Cotton Valley	43,400	1,916,429

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- Vernon, R. O., and Walter Erwin, 1956, Developments in southeastern states in 1955: American Association of Petroleum Geologists Bulletin, v. 40, no. 6, p. 1272-1282.

Well: Union Oil Company of California No. 1 Anderson-Tully Company 21-11

API well number: 23-149-20020

Location: Surface location: 2,401' FSL and 1,638' FEL of Section 21; proposed bottom hole location: 1,500' FSL and 1,500' FWL of Section 21-T17N-R5E

Elevation: 344' GL, 370' DF, 372' KB

Total depth: 11,942'

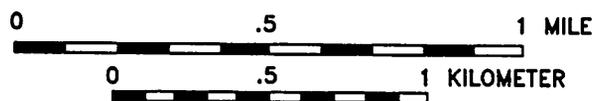
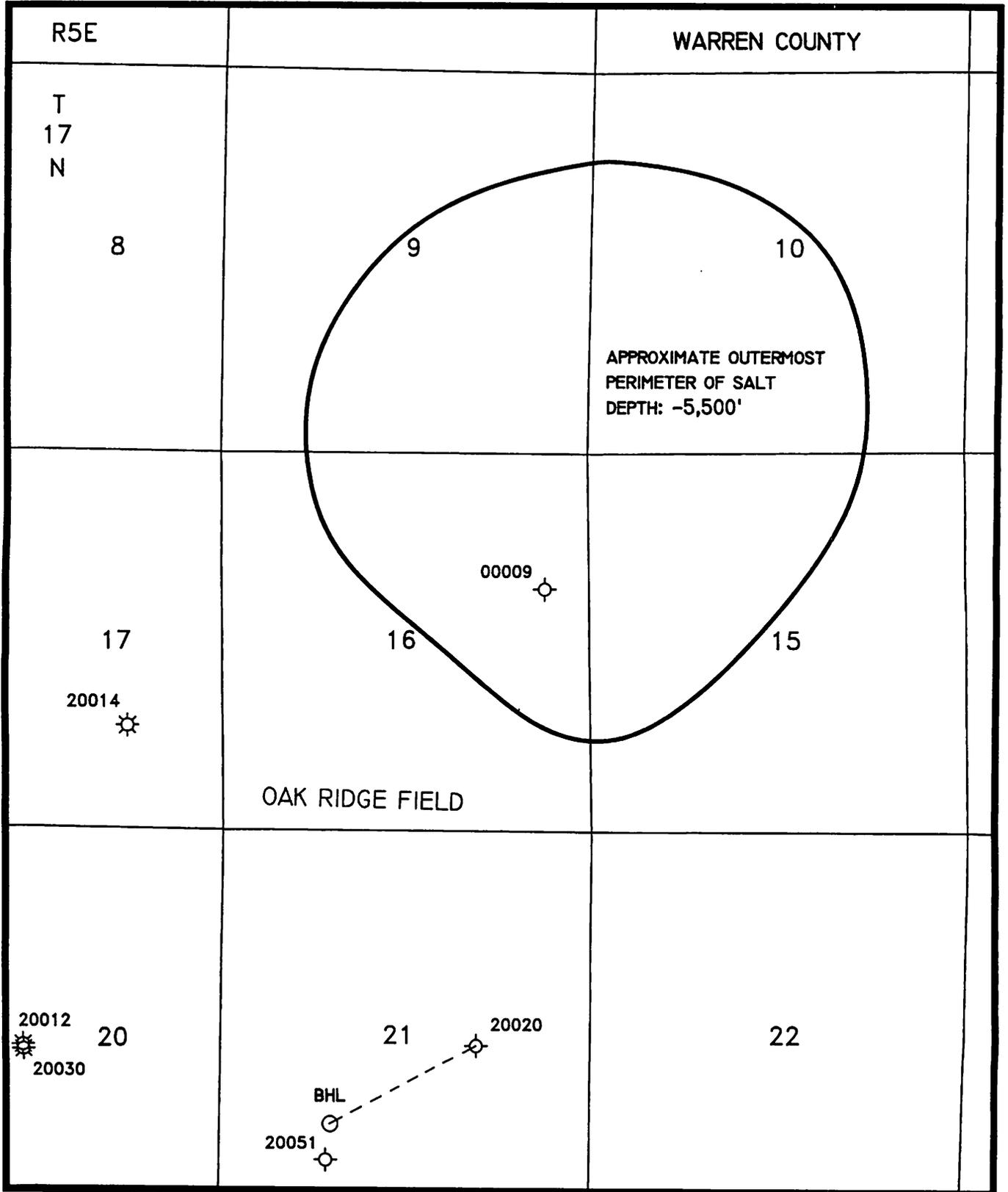
Reported formation tops:

Note: these tops are from a slanted hole and are not true vertical depths.

Midway	5,896'
Selma	6,833'
Eutaw	7,432'
Lower Tuscaloosa	8,889'
base Ferry Lake	11,650'

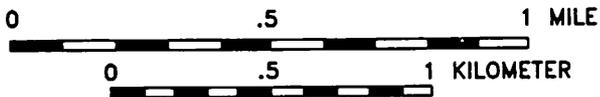
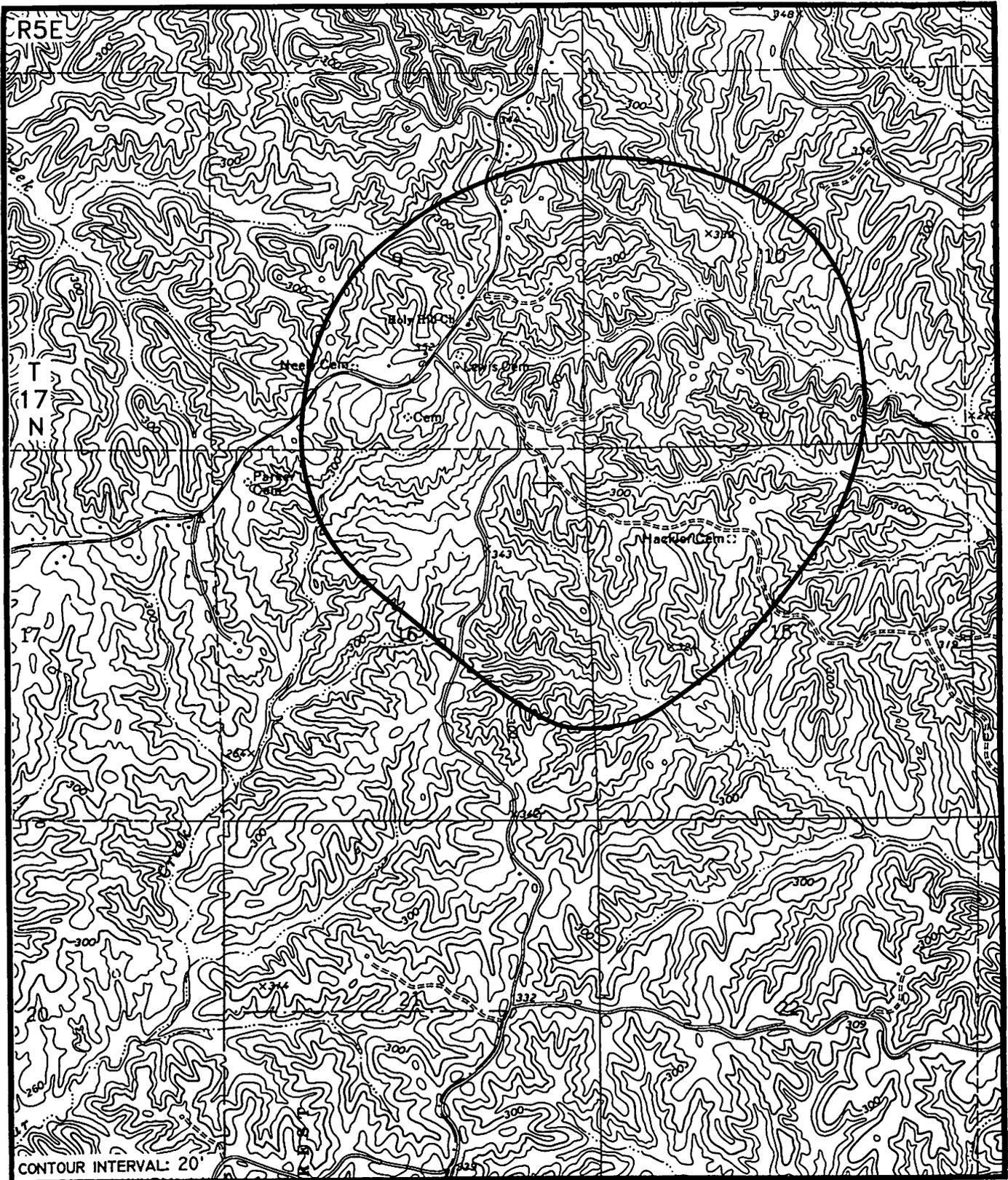
Geophysical logs: Schlumberger Dual Induction-SFL 2,851'-11,894', Microlog, dipmeter, Compensated Neutron-Formation Density, Cyberlook

Comments: Cored 11,797', no details released. Rodessa



OAK RIDGE DOME

FIGURE I12



OAK RIDGE DOME

FIGURE I13

OAKVALE SALT DOME

GENERAL DATA

Location: Sections 28,29,32,33-T6N-R19W, and Sections 4,5-T5N-R19W, Jefferson Davis County, Mississippi

USGS topographic map(s): Oak Vale

Geophysical data: Regional Bouguer gravity shows a well defined gravity minimum 2 miles in diameter with a well defined cap rock maximum.

Estimated size and shape: Approximately circular, 1-1.5 miles in diameter

Estimated base fresh water (10,000 ppm): -2,500'

Economic use: None to date

Shallowest known cap rock: 1,839' (Sun Oil Company No. D-1 Ed Taylor)

Shallowest known salt: 2,696' (Freeport Sulphur Company No. 1 Ed Taylor)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Marion Corporation No. 1 Dale Trust)

Nearest oil or gas production: West Oakvale Field produces from the Lower Cretaceous Hosston, Sligo, James Limestone, and Paluxy formations one mile west. Greens Creek Field produces from the Hosston, Sligo, and James Limestone formations one mile south. Oakvale Field produces from the Hosston and Sligo formations 3 miles east.

DRILLING HISTORY

Discovery well: Sun Oil Company No. D-1 Ed Taylor

API well number: 23-065-00140

Location: 450' N and 150' W of SE/corner of SW/4 of NE/4 of Section 32-T6N-R19W

Elevation: 335' GL

Total depth: 1,916'

Reported formation tops:

cap rock 1,839'

Geophysical logs:

Comments: Core test

Completed: 11/1940

Additional drilling:

Well: Marion Corporation No. 1 Dale Trust

API well number: 23-065-20189

Location: 1,500' FSL and 1,500' FWL of Section 4-T5N-R19W

Elevation: 213' GL, 234' DF, 235' KB

Total depth: 16,637'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway 6,100'

chalk 7,090'

Eutaw 8,390'

Lower Tuscaloosa 9,785'

Ferry Lake 14,543'

base Ferry Lake 14,870'

Sligo 15,870'

Hosston 16,100'

Harper (sand, Hosston) 16,455'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 3,026'-16,630', Compensated Neutron-Formation Density 14,756'-16,634'

Comments: Perforated 16,110'-12', acidized, swabbed 100% salt water. On north edge of Greens Creek Field.

Completed: D&A 5/1982

Well: Marion Corporation No. 1 W. E. Hathorn

API well number: 23-065-20175

Location: 750' FSL and 750' FEL of Section 5-T5N-R19W

Elevation: 231' GL, 252' DF, 253' KB

Total depth: 16,669'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway 6,250'

Selma 6,970'

Tuscaloosa 8,760'

Lower Tuscaloosa 9,685'

base Ferry Lake 14,828'

James 15,470'

Sligo 15,800'

1st Hosston (sand) 15,980'

Harper (sand) 16,340'

Geophysical logs: Schlumberger Dual Induction-SFL-Sonic 3,152'-16,672', FDC/CNL GR, Microlog

Comments: Completed flowing 3,590 MCFGPD, 102 BCPD, no water, 20/64" choke, 2,450# TP, GCR 35,196:1, gravity 48°, from Hosston perforations 15,982'-16,008'. In Greens Creek Field.

Completed: 5/1981

Well: Marion Corporation (Ronald Mitchell and Gary Mitchell) No. 1 J. C. Holbrook 6-6.

API well number: 23-065-20197

Location: 1,500' FNL and 1,500' FWL of Section 6-T5N-R19W

Elevation: 193' GL, 216' DF, 218' KB

Total depth: 16,550'

Reported formation tops:

Geophysical logs: Dresser Atlas Dual Induction Focused Log BHC Acoustilog 3,021'-16,523'

Comments: No cores or tests.

Completed: D&A 1/1982

Well: Harkins & Company No. 1 Cole Unit 8-7

API well number: 23-065-20192

Location: 1,500' FNL and 1,500' FEL of Section 8-T5N-R19W

Elevation: 209' GL, 230' DF, 231' KB

Total depth: 16,597'

Reported formation tops: (scout ticket)

chalk	7,202'
Eutaw	8,719'
Lower Tuscaloosa	9,750'
Mooringsport	14,024'
base Ferry Lake	14,749'
Sligo	15,722'
Hosston	15,932'

Geophysical logs: Schlumberger Dual Induction-SFL 3,093'-16,583'

Comments: Completed flowing 200 MCFGPD, 170 BWPD, 16/64" choke, 50# TP from perforations 15,936'-94'. No cores or tests. In Greens Creek Field.

Completed: 3/1982

Well: Tomlinson Interests, Inc. No. 1 Jeff Aultman Estate 30-13

API well number: 23-065-20183

Location: 900' FSL and 900' FWL of Section 30-T6N-R19W

Elevation: 270' GL, 295' DF, 297' KB

Total depth: 16,716'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway	6,090'
chalk	7,133'
Austin	8,150'
Upper Tuscaloosa	8,623'
Lower Tuscaloosa	9,635'
Lower Cretaceous	10,042'
Paluxy	12,430'
Mooringsport	13,690'
Ferry Lake anhydrite	14,300'
James	15,254'
1st Hosston sand	15,760'
2nd Hosston sand	15,880'
3rd Hosston A sand	16,040'
3rd Hosston B sand	16,120'
4th Hosston sand	16,246'
Booth sand	16,370'
5th Hosston sand	16,602'

Geophysical logs: Schlumberger Dual Induction-SFL 3,270'-16,678', Compensated Formation Density-Compensated Neutron, Microlog

Comments: Completed flowing 1,426 MCFGPD, 88 BWPD, 16/64" choke, 1,630# TP, from Paluxy perforations 13,920'-34' (as reported). Drillstem tested 13,298'-942', no details. Perforated 16,378'-942', tested, squeezed, no details given. Perforated 16,124'-36', tested, squeezed, no details given. In West Oakvale Field.

Completed: 10/1981

Well: Tomlinson Interests, Inc. No. 1 Barnes Unit 31-5

API well number: 23-065-20140

Location: 1,500' FNL and 900' FWL of Section 31-T6N-R19W

Elevation: 269' GL, 294' DF, 295' KB

Total depth: 17,000'

Reported formation tops: (scout ticket)

chalk	7,240' - 8,505'
Upper Tuscaloosa	8,680'
marine Tuscaloosa	9,433'
Lower Tuscaloosa	9,748'
Lower Cretaceous	10,146'
Paluxy	12,310'
Ferry Lake anhydrite	14,286' - 642'
James	15,242'
Sligo	15,548'
Hosston Harper sand	16,100'
Hosston Booth sand	16,411'

Geophysical logs: Schlumberger Dual Induction-SFL 2,992'-16,476', FDC/CNL GR, ML, HDT, CDR

Comments: Completed flowing 5,800 MCFGPD, 223 BWPD, 22/64" choke, 2,365# TP from perforations 15,654'-76'. Perforated 13,291'-951', tested salt water with some gas, squeezed. Perforated 16,119'-31', tested small amount gas and water. In West Oakvale Field.

Completed: 6/1980

Well: Freeport Sulphur Company No. 1 P. A. Fortenberry

API well number: 23-065-00004

Location: 1,670' N and 250' E of SE/corner of SW/4 of Section 32-T6N-R19W

Elevation: 275' GL (topographic map), 291' KB ?

Total depth: 1,895'

Reported formation tops:

Geophysical logs: "No Schlumberger run." (scout ticket)

Comments: At 1,895' in shale with streaks of hard lime. Drillstem stuck and left 900' in the hole. No true cap rock encountered. Sulphur test

Completed: J&A 12/1943

Well: Freeport Sulphur Company No. 1 J. J. Newman Lumber Company

API well number: 23-065-00005

Location: 1,150' FEL and 2,950' FSL of Section 32-T6N-R19W

Elevation: 334' GL (?), 321' GL (topographic map), 339' DF

Total depth: 2,016'

Reported formation tops: (drillers log)

cap rock	1,849'
anhydrite	1,999'

Geophysical logs: "Ran Schlumberger from 2,016' " (scout ticket)

Comments: Sulphur test

Completed: D&A 10/1943

Well: Freeport Sulphur Company No. 1 Ed Taylor
API well number: 23-065-00007
Location: 1,300' N 48° W from Freeport No. 1 Newman, Section 32-T6N-R19W
Elevation: 296' GL (?)
Total depth: 2,735'
Reported formation tops: (drillers log)
 cap rock 1,870'
 anhydrite 1,994'
 salt 2,696'
Geophysical logs: "Ran Schlumberger from 1,870'" (scout ticket)
Comments: Sulphur test
Completed: 12/1943

Well: Freeport Sulphur Company No. 2 J. J. Newman Lumber Company
API well number: 23-065-00006
Location: 900' S and 260' E of SW/corner of NW/4 of Section 33-T6N-R19W
Elevation: 341' GL (?), 275' GL (topographic map)
Total depth: 2,232'
Reported formation tops: (drillers log)
 cap rock 2,157'
 anhydrite 2,268'
Geophysical logs: "Ran Jeep." (Halliburton) (scout ticket)
Comments: Sulphur test. Cored 1,848'-53', recovered 6" "sticky shale with gravel and shell"; 1,952'-57', recovered 3' hard sand with streaks of slickensided shale.
Completed: D&A 11/1943

Well: Freeport Sulphur Company No. 1 Ramsey Thurman
API well number: 23-065-00008
Location: 1,980' N and 110' E from SW/corner of NW/4 of Section 33-T6N-R19W
Elevation: 332' GL ?
Total depth: 2,215'
Reported formation tops: (drillers log)
 cap rock 2,155'
 anhydrite 2,162'

Geophysical logs: "Ran Jeep (Halliburton) from 1,936'." (scout ticket)
Comments: Sulphur test
Completed: D&A 11/1943

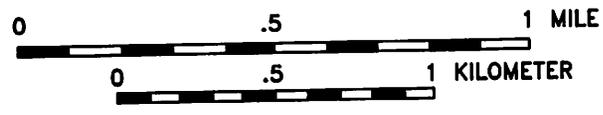
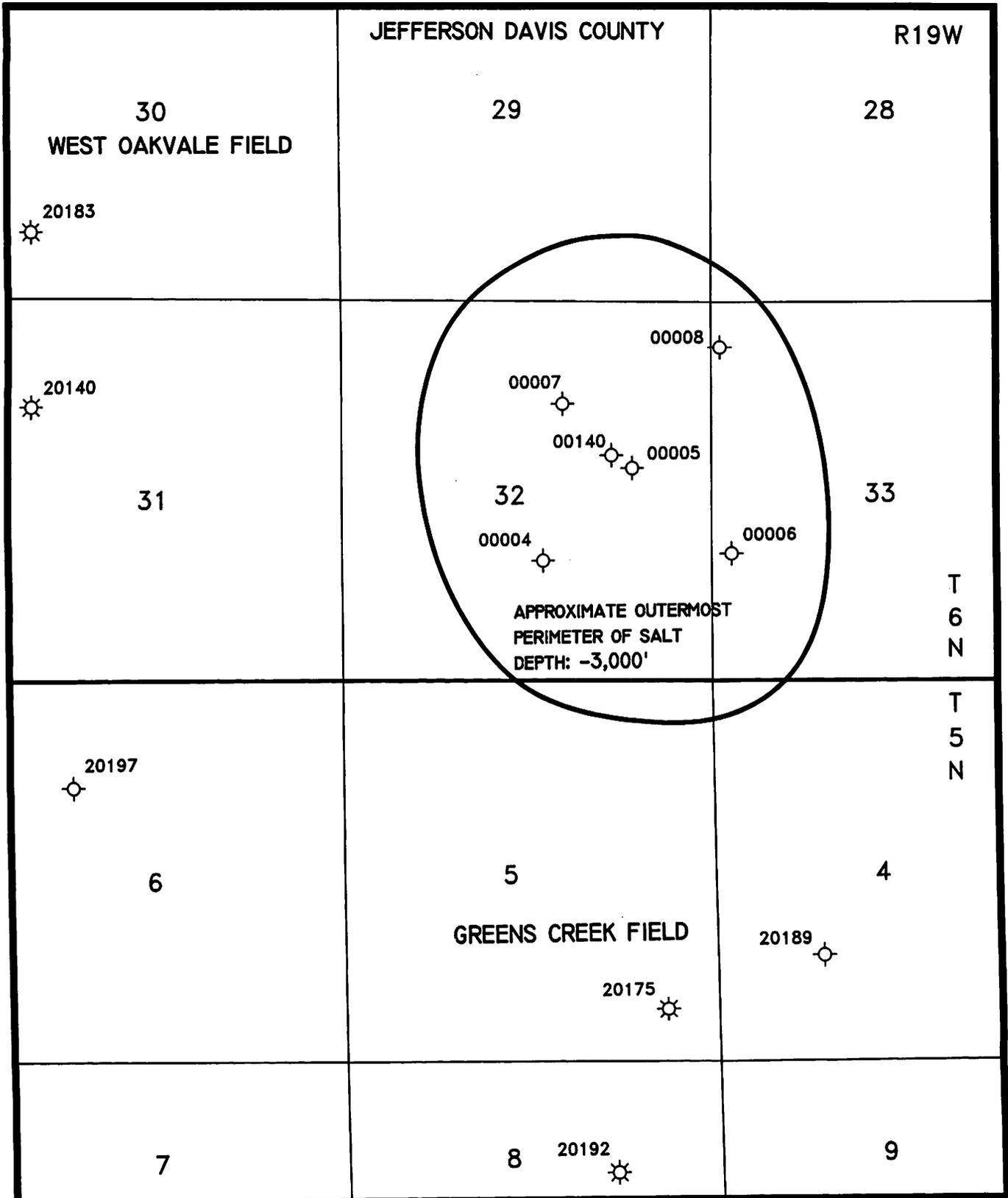
PRODUCTION

Cumulative Production to 1/1/1995

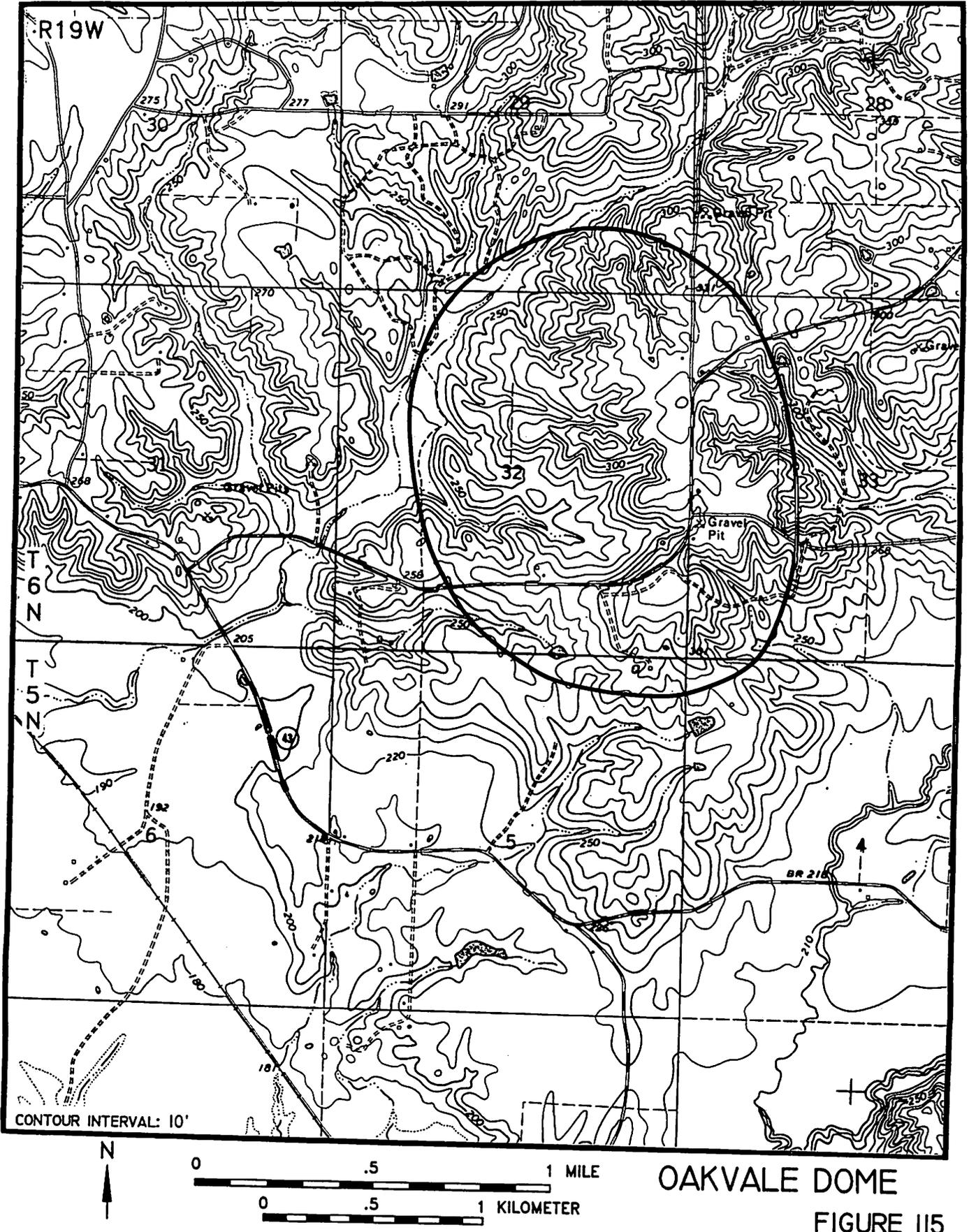
	Oil (Barrels)	Gas (MCF)
Greens Creek Field		
Sligo	17,896	2,587,020
James Limestone	7,560	1,297
Hosston	1,206,142	142,829,171
West Oakvale Field		
Paluxy	3,273	2,389,930
Sligo	25,979	3,831,696
James Limestone	100,684	54,414
Hosston	5,008	4,771,962

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OAKVALE DOME
FIGURE 114



OAKVALE DOME
FIGURE I15

PETAL SALT DOME

GENERAL DATA

Location: Sections 23,24,25,26,35,36-T5N-R13W, Forrest County, Mississippi

USGS topographic map(s): Barrontown, Carterville, Eastabuchie, Hattiesburg

Geophysical data: Regional Bouguer gravity shows Petal Dome to be on a large 1.5 township minimum with 30-40 milligals of relief.

Estimated size and shape: Oval, 2 miles diameter north-south, 1.5 miles diameter east-west.

Estimated base fresh water (10,000 ppm): -1,400'

Economic use: Artificial solution caverns in salt are used for the storage of liquefied petroleum gas and natural gas.

Shallowest known cap rock: 1,148' (Warren Petroleum Corporation No. 2 Warren Petroleum Corporation (Hattiesburg LPG))

Shallowest known salt: 1,626' (Mobil Oil Corp. numbers 2 & 3 Mobil Fee)

Oldest formation penetrated within one mile of dome: Eocene Wilcox Formation (Fenix & Scisson No. 1 Salt Water Disposal)

Nearest oil or gas production: Ovelt Field, eight miles to the northeast, produces from Lower Cretaceous Hosston, Mooringsport, Paluxy and Washita-Fredericksburg formations and Upper Cretaceous Lower Tuscaloosa and Eutaw formations.

DRILLING HISTORY

Discovery well: Sippiala Corporation (Texas Gulf Sulphur Company, Inc.) No. 1 J. E. Wilson

API well number: 23-035-00177

Location: 251' N and 406' W of SE/corner of NE/4 of SW/4 of Section 25-T5N-R13W (map no. 1)

Elevation: 170' GL (topographic map), 182' (?DF) (Mississippi State Oil and Gas Board well file)

Total depth: 1,802'

Reported formation tops: (scout ticket, Mellen)

cap rock 1,599'

anhydrite 1,698'

salt 1,739'

Geophysical logs: See comments

Comments: Mellen reports this as a core hole with no logs available. Sulphur test.

Completed: D&A 10/1946

Additional drilling:

Well: Enterprise Products Company No. 1 Enterprise Salt Water Disposal Well

API well number: 23-035-20026

Location: From SE/corner of SE/4 of SW/4 of Section 13, go W 363' then N 1,000', then W 440' then N 125' to location in Section 13-T5N-R13W. (map no. 2)

Elevation: 235' (topographic map)

Total depth: 4,384'

Reported formation tops:

Geophysical logs: Dresser Atlas Acoustic Cement Bond Log 0-4,335'

Comments: Salt water disposal well into Wilcox Formation.

Completed: 8/1971

Well: Warren Petroleum Corporation No. 1 Warren Petroleum S/W Input (Salt Water Injection) Well

API well number: 23-035-20021

Location: 557' NSL and 207' EWL of SE/4 of SW/4 of Section 13-T5N-R13W (map no. 3)

Elevation: 222' GL, 234' DF, 235' KB and casing head flange

Total depth: 4,520'

Reported formation tops:

Geophysical logs: Dresser Atlas Induction Electrolog 753'-4,482'

Comments: Salt water injection into Wilcox Formation from 4,263'-93' and 4,324'-447'. Wilcox perforations 3,482'-942' overall added 9/1971.

Completed: 4/1971

Well: Warren Petroleum Corporation (PB-KBB) No. 2 Warren Petroleum SWD Salt Water Disposal Well

API well number: 23-035-20119

Location: 309' E and 151' N from SE corner of SW/4 of SW/4 of Section 13-T5N-R13W (map no. 4)

Elevation: 222' GL, 198' GL (topographic map)

Total depth: 5,500'

Reported formation tops:

Geophysical logs: Atlas Wireline Services Acoustic Cement Bond Log/Gamma Ray 40'-5,487'

Comments:

Completed: 8/1992

Well: Warren Petroleum Corporation (PB-KBB) No. 3 Warren Petroleum SWD

API well number: 23-035-20117

Location: 297' E and 1,102' N of SE corner of SW/4 of SW/4 of Section 13-T5N-R13W (map no. 5)

Elevation: 222' GL, 210' GL (topographic map)

Total depth: 5,145'

Reported formation tops:

Geophysical logs: Atlas Wireline Services Dual Induction Focused Log Gamma Ray 2,025'-5,140', Acoustic Cement Bond Log Gamma Ray 36'-5,074', Differential Temperature Log 0-5,087', Schlumberger Ultrasonic Imager with Gamma Ray 15'-5,070'

Comments:

Completed: 8/1992

Well: Delta Underground Storage, Inc. (Delta Storage and Distribution Company) (Scott Butane Gas Company, Inc.) No. 1 Delta Underground Storage Company, Inc. Fee (Salt Water Disposal)

API well number: 23-035-20049

Location: 2,450' W and 1,800' N of SE/corner of Section 14-T5N-R13W (map no. 6)

Elevation: 165' GL

Total depth: 4,550'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Wilcox 2,288'

Geophysical logs: Dresser Atlas Densilog 406'-4,389'

Comments: Salt water injection well into Wilcox Formation perforations 3,364'-4,453' overall.

Completed: 6/1977

Well: Hattiesburg Gas Storage Company (Fenix & Scisson, Inc.) No. 1 Lampton-Love Salt Water Disposal Well

API well number: 23-035-20054

Location: 150' FSL and 150' FEL of SW/4 of SW/4 of Section 14-T5N-R13W (map no. 7)

Elevation: 156' GL, 165' DF, 166' KB

Total depth: 5,065'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Cockfield 1,386'

Cook Mountain 1,608'

Kosciusko 1,722'

Zilpha 1,920'

Winona 2,078'

Wilcox 2,296'

Geophysical logs: McCullough Bond Cement-Gamma Ray-Sonic Seismogram Log 40'-4,999', Schlumberger Compensated Neutron-Formation Density 1,110'-5,061', Dual Induction-Laterolog 94'-1,122'

Comments: Salt water disposal well into Wilcox Formation perforations 4,443'-786'.

Completed: 1/1978

Well: Hattiesburg Gas Storage Company (Fenix & Scisson, Inc.) No. 2 Lampton-Love Salt Water Disposal Well

API well number: 23-035-20055

Location: 267' FSL and 844' FWL of Section 14-T5N-R13W (map no. 8)

Elevation: 153' GL, 161.8' DF, 162.4' KB

Total depth: 5,042'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg lime ?

Yazoo 1,200'

Moodys Branch 1,365'

Cockfield 1,406'

Cook Mountain 1,628'

Kosciusko 1,733'

Zilpha 1,946'

Winona 2,098'

Wilcox 2,292'

Geophysical logs: McCullough Bond Cement-Gamma Ray-Sonic Seismogram 0-4,984', Schlumberger Compensated Neutron-Formation Density 2,850'-5,046', Dual Induction-Laterolog 71'-5,042'

Comments: Salt water disposal into Wilcox Formation from 4,332'-4,955'.

Completed: 1/1978

Well: Mobil Oil Corporation No. 1 Max Watts SWD

API well number: 23-035-20012

Location: 125' FSL and 175' FEL of Mobil's 5 acre Max Watts lease, NW/4 of SE/4 of Section 14-T5N-R13W (map no. 9)

Elevation: 165' GL, 172' DF, 174' KB,

Total depth: 3,613'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg 1,060'

Cockfield 1,430'

Cook Mountain 1,630'

Sparta 1,730'

Wilcox 2,330'

Bashi (Wilcox) 2,846'

Geophysical logs: Schlumberger Induction-Electrical Log 304'-3,612'

Comments: Salt water disposal well into Wilcox Formation perforations 3,362'-404'. The Mississippi State Oil and Gas Board well completion form shows elevation as 190' GL. Elevations shown are from log heading. Plugged and abandoned 10/22/1982.

Completed: 2/1970

Well: Mobil Oil Corporation No. 2 Max Watts Salt Water Disposal Well

API well number: 23-035-20103

Location: 104' FSL and 268' FEL of Mobil's 5 acre Max Watts lease, NW/4 of SE/4 of Section 14-T5N-R13W (map no. 10)

Elevation: 165' (topographic map)

Total depth: 5,000'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg 1,065'

Yazoo 1,187'

Moodys Branch 1,305'

Cockfield 1,398'

Cook Mountain 1,620'

Kosciusko 1,723'

Zilpha 1,920'

Wilcox 2,322'

Bashi (Wilcox) 2,846'

Geophysical logs: Dual Induction with Gamma Ray and caliper, Gamma-Ray-Neutron-Cement Bond Log

Comments: Salt water disposal well into Wilcox Formation perforations 4,354'-505' and 3,800'-4,260' (alternate).

Completed: 2/1983

Well: Suburban Propane Division of Quantum Chemical Corporation (Texgas Corporation) (Union Texas Petroleum) (Allied Chemical Corporation) No. 1 Allied Chemical Corporation Fee Salt Water Disposal Well (Union Texas Petroleum Fee)

API well number: 23-035-20013

Location: 2,490' FSL and 2,493' FEL of Section 14-T5N-R13W (map no. 11)

Elevation: 166' GL, 169' casing head flange, 173' DF, 174' KB

Total depth: 3,136'

Reported formation tops: (scout ticket)

Bucatanna	1,002'
Vicksburg lime	1,060'
Yazoo	1,182'
Jackson	1,242'
Ocala lime	1,430'
Cook Mountain	1,630'
Sparta	1,730'
Winona	2,100'
Tallahatta	2,325'
Wilcox sand	2,504'
Bashi (Wilcox)	2,850'

Geophysical logs: Schlumberger Dual Induction-Laterolog 268'-3,107'

Comments: Salt water brine disposal well from 2,167'-307'.

Completed: 1/1970

Well: Anchor Petroleum Company No. 1 Forrest Fee Core Test

API well number: 23-035-00464

Location: (No footage location in Mississippi State Oil and Gas Board well file) Section 23-T5N-R13W (map no. 12 shown in approximate center of section)

Elevation: Not available.

Total depth: 1,676'

Reported formation tops:

Geophysical logs:

Comments: Exact location not shown in Mississippi State Oil and Gas Board files.

Completed: D&A 5/1953

Well: Delta Underground Storage, Inc. (Scott Butane Gas Company) No. 1 Delta Underground Storage Well (L.P.G. Storage Well)

API well number: 23-035-20050

Location: 150' N and 150' W of SE/corner of NE/4 of SE/4 of Section 23-T5N-R13W (map no. 13)

Elevation: 164' GL, 173' DF, 174' KB

Total depth: 2,717'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock	1,422'
salt	1,629'

Geophysical logs: Dresser Atlas Densilog 278'-2,716'

Comments: Drilled by Delta. There was a previous undrilled well permitted at this location by Scott Butane Gas Company. Plugged 12/1990.

Completed: 7/1977

Well: Delta Underground Storage, Inc. (Scott Butane Gas Company) No. 2 Delta Underground Storage Well (L.P.G. Storage Well)

API well number: 23-035-20051

Location: 511' W and 150' N of SE/corner of NE/4 of SE/4 of Section 23-T5N-R13W (map no. 14)

Elevation: 163' GL, 166' casing head flange

Total depth: 3,040'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock	1,402'
salt	1,652'

Geophysical logs: Dresser Atlas Densilog 1,489'-2,984'

Comments: Drilled by Delta. Some paperwork exists on an undrilled well at approximately this location by Scott Butane Gas Company. Drilled for liquefied petroleum gas storage in salt cavern. The cavern apparently leaked liquefied petroleum gas into the shallow subsurface under a nearby highway and railroad. A subsequent underground explosion caused the formation of a crater at the surface. Plugged 12/1990.

Completed: 9/1977

Well: Delta Underground Storage, Inc. No. 3 L.P.G. Storage
API well number: 23-035-20061

Location: 150' N and 872' W of SE/corner of NE/4 of SE/4 of Section 23-T5N-R13W (map no. 15)

Elevation: 163' GL (topographic map)

Total depth: 2,273'

Reported formation tops:

Geophysical logs: No logs run

Comments: Junked due to parted casing; no logs filed.

Completed: J&A 6/1978

Well: Mobil Oil Corporation (Anchor Petroleum Company) (Allied Chemical Corp.) No. 3 Mobil Fee

API well number: 23-035-00006

Location: 368' E and 160' N of intersection of S line of Section 23 and E R/W of NO and NE R.R. in SE/4 of SE/4 of section, also given as 160' N and 970' W of SE/corner (scout ticket) of Section 23-T5N-R13W (map no. 16)

Elevation: 158' GL (topographic map)

Total depth: 3,107'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

anhydrite	1,305'
salt	1,626' (core)

Geophysical logs: Schlumberger Temperature Log 100'-2,022'

Comments: Mobil purchased Anchor Petroleum 1/1/1961. Liquefied petroleum gas storage in salt cavern.

Completed: 7/1953

Well: Scott Butane Gas Company, Inc. No. 1 Scott Butane Gas Company, Inc.

API well number: 23-035-20042

Location: 300' FSL and 400' FEL of NE/4 of SE/4 of Section 23-T5N-R13W (map no. 17)

Elevation: 164' GL, 170' DF, 171' KB

Total depth: 2,436'

Reported formation tops:

Geophysical logs: Dresser Atlas Densilog 335'-2,415'

Comments: Drilled as a stratigraphic test. Plugged 7/13/1975

Completed: D&A 7/1975

Well: Hattiesburg Gas Storage (Endevco) (Fenix & Scisson, Inc.) No. 1 Lampton-Love Storage Well (Hattiesburg LPG Storage Well No. 1 on some log headers)

API well number: 23-035-20056

Location: 200' FWL and 750' FSL of SW/4 of Section 24-T5N-R13W (map no. 19)

Elevation: 178' GL, 184' DF, 185' KB

Total depth: 3,105'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock 1,396'

salt 1,643'

Geophysical logs: Schlumberger Borehole Compensated Sonic Log 304'-2,396', Compensated Neutron Log 304'-2,384', Dresser Atlas Acoustic Cement Bond Log 30'-1,820', Compensated Densilog 2,000'-3,103', Compensated Neutron 2,000'-3,103'

Comments: Liquefied petroleum gas storage well in salt cavern with planned capacity of 3 million barrels, 1,000' high X 150' diameter. Converted to natural gas storage.

Completed: 12/1977

Well: Hattiesburg Gas Storage (Endevco) (Fenix & Scisson, Inc.) No. 2 Lampton-Love Storage Well (Hattiesburg LPG Storage Well No. 2 on log headers)

API well number: 23-035-20057

Location: 350' FSL and 200' FWL of Section 24-T5N-R13W (map no. 18)

Elevation: 191' GL, 199' DF, 200' KB

Total depth: 3,106'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

cap rock 1,408'

salt 1,655'

Geophysical logs: Schlumberger Compensated Formation Density Log 1,755'-3,103', Cement Bond Log 150'-1,755', Dresser Atlas Gamma Ray Neutron 0-1,992'

Comments: Liquefied petroleum gas storage well in salt cavern with planned original capacity of 3 million barrels, later increased to 5 million barrels. Converted to natural gas storage.

Completed: 1/1978

Well: Enterprise Products Company No. 1 Enterprise Products Storage

API well number: 23-035-20024

Location: 200' N and 200' E of SW/corner of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 20)

Elevation: 255' GL (topographic map)

Total depth: 3,630'

Reported formation tops: (Alan Jackson)

anhydrite 1,316'

salt 1,716'

Geophysical logs: Dresser Atlas Gamma Ray 0-3,599'

Comments: Liquefied petroleum gas storage in salt cavern. One million barrels capacity.

Completed: 10/1971

Well: Enterprise Products Company No. 2 L.P.G. Storage Well

API well number: 23-065-20025

Location: 600' N and 200' E of SW/corner of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 21)

Elevation: 245' GL (topographic map)

Total depth: 3,630'

Reported formation tops: (Alan Jackson)

anhydrite 1,307'

salt 1,710'

Geophysical logs: Dresser Atlas Gamma Ray 0-3,599'

Comments: Liquefied petroleum gas storage in salt cavern. One million barrels capacity.

Completed: 10/1971

Well: Enterprise Products Company No. 3 L.P.G. Storage Well

API well number: 23-035-20029

Location: 200' N and 575' E of SW/corner of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 22)

Elevation: 255' GL (topographic map)

Total depth: 3,600'+

Reported formation tops: (Alan Jackson)

anhydrite 1,308'

salt 1,720'

Geophysical logs: Inland Gamma Ray 0-3,600'

Comments: Liquefied petroleum gas storage in salt cavern. One million barrels capacity.

Completed: 8/1972

Well: Enterprise Products Company No. 4 L.P.G. Storage Well

API well number: 23-035-20030

Location: 600' N and 575' E of SW/corner of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 23)

Elevation: 255' GL (topographic map)

Total depth: 3,605'

Reported formation tops: (Alan Jackson)

anhydrite 1,292'

salt 1,732'

Geophysical logs: Inland Gamma Ray 0-3,604', Micro Gauge, Inc. Interface Survey 1,800'-2,250'

Comments: Liquefied petroleum gas storage in salt cavern. One million barrels capacity.

Completed: 6/1972

Well: Enterprise Products Company No. 5 L.P.G. Storage Well

API well number: 23-035-20032

Location: 575' EWL and 1,070' NSL of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 24)

Elevation: 252' GL (topographic map)

Total depth: 3,627'

Reported formation tops: (Alan Jackson)

anhydrite 1,326'

salt 1,702'

Geophysical logs: Inland Gamma Ray 0-3,600'

Comments: Liquefied petroleum gas storage in salt cavern. One million barrels capacity.

Completed: 9/1973

Well: Enterprise Products Company No. 6 L.P.G. Storage Well

API well number: 23-035-20033

Location: 200' EWL and 1,070' NSL of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 25)

Elevation: 210' GL (topographic map), 220' GL (Alan Jackson)

Total depth: 3,577'

Reported formation tops: (Alan Jackson)

anhydrite 1,320'

salt 1,681'

Geophysical logs: Inland CBL (cement bond log)-Collar Log 0-3,564'

Comments: Liquefied petroleum gas storage in one million barrels capacity salt cavern.

Completed: 8/1973

Well: Enterprise Products Company No. 7 L.P.G. Storage Well

API well number: 23-035-20039

Location: 200' NSL and 200' WEL of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 26)

Elevation: 255' GL (topographic map)

Total depth: 3,700'

Reported formation tops:

Geophysical logs: Cement bond log

Comments: Liquefied petroleum gas storage in one million barrels capacity salt cavern. Inactive

Completed: 3/1975

Well: Enterprise Products Company No. 7-A L.P.G. Storage Well

API well number: 23-035-20095

Location: 272' FSL and 302' FEL of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 27)

Elevation: 255' GL (topographic map)

Total depth:

Reported formation tops:

Geophysical logs:

Comments: Well was drilled to recover trapped product from the Enterprise no. 7 storage well, which it did not accomplish. This is a well, not a cavern. There are no completion reports or logs in the Mississippi State Oil and Gas Board files. Inactive

Completed: Before 2/1987

Well: Enterprise Products Company No. 8 L.P.G. Storage Well

API well number: 23-035-20040

Location: 660' NSL and 200' WEL of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 28)

Elevation: 255' GL (topographic map)

Total depth: 3,700'

Reported formation tops:

Geophysical logs: Dresser Atlas Acoustic Cement Bond Log 0-2,240'

Comments: Liquefied petroleum gas storage in salt cavern of 500,000 barrels initially. Application made in 1978 to expand capacity to one million barrels.

Completed: 4/1975

Well: Enterprise Products Company No. 9 L.P.G. Storage Well

API well number: 23-035-20047

Location: 200' SNL and 200' WEL of NW/4 of NW/4 of Section 25-T5N-R13W (map no. 29)

Elevation: 250' GL

Total depth: 3,750'

Reported formation tops:

Geophysical logs: Dresser Atlas Cement Bond Log 50'-3,728'

Comments: Liquefied petroleum gas storage in salt cavern.

Completed: 11/1976

Well: Enterprise Products Company No. 10 L.P.G. Storage Well

API well number: 23-035-20086

Location: 455' FEL and 203' FNL of NW/4 of SW/4 of Section 25-T5N-R13W (map no. 30)

Elevation: 245' GL, 246' casing head flange

Total depth: 4,100'

Reported formation tops:

Geophysical logs: Dresser Atlas Induction Electrolog 436'-1,948', Densilog 2,221'-4,097'

Comments: Liquefied petroleum gas storage well in salt cavern with one million barrels capacity.

Completed: 11/1980

Well: Enterprise Products Company No. 11 L.P.G. Storage Well

API well number: 23-035-20087

Location: 455' FEL and 603' FNL of NW/4 of SW/4 of Section 25-T5N-R13W (map no. 31)

Elevation: 210' GL, 212' casing head flange, 227' KB

Total depth: 4,107'

Reported formation tops:

Geophysical logs: Schlumberger Compensated Formation Density Log 1,932'-4,104', Dresser Atlas Densilog 1,588'-1,942'

Comments: Liquefied petroleum gas storage in salt cavern.

Completed: 2/1981

Well: Mosbacher Energy Company No. 1 City of Petal 25-8

API well number: 23-035-20120

Location: 1,520' SNL and 160' WEL of Section 25-T5N-R3W (map no. 32)

Elevation: 191' GL, 213' DF, 214' KB

Total depth: 10,522'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Midway 4,500'

Selma chalk 5,300'

Eutaw 6,598'

Tuscaloosa 6,890'

Lower Tuscaloosa 7,720'

Washita-Fredericksburg 8,029'

Geophysical logs: Schlumberger Dual Induction/SFL BHC Sonic Gamma Ray 3,542'-10,513'

Comments: Domal flank exploratory oil/gas well

Completed: D&A 11/1992

Well: Sippiala Corporation (Texas Gulf Sulphur Company, Inc.) No. 1 L. Stapleton

API well number: 23-035-00468

Location: 50' S and 349' W of NE/corner of SE/4 of NW/4 of Section 25-T5N-R13W (map no. 33)

Elevation: 195' GL (topographic map)

Total depth: 1,358'

Reported formation tops: (scout ticket)
cap rock 1,326'

Geophysical logs:

Comments: TD in limestone and calcite, hole cratered. Lost returns at 1,348', 1,351', and 1,358'. Mellen reports this as a core hole with no logs available. Sulphur test

Completed: J&A 11/1946

Well: Sippiala Corporation (Texas Gulf Sulphur Company, Inc.) No. 2 L. Stapleton

API well number: 23-035-00176

Location: 100' N and 100' E of SW/corner of NW/4 of Section 25-T5N-R13W (map no. 34)

Elevation: 185' (?) (scout ticket), 210' GL (topographic map)

Total depth: 1,393'

Reported formation tops: (scout ticket)
anhydrite 1,235'

Geophysical logs: See comments

Comments: Mellen reported this as a core hole with no logs available. Sulphur test

Completed: D&A 10/1946

Well: Warren Petroleum Corporation No. 1 Warren Petroleum Corporation (Hattiesburg LPG)

API well number: 23-035-00248

Location: 400' EWL and 450' SNL of SW/4 of SW/4 of Section 25-T5N-R13W (map no. 35)

Elevation: 168' GL (topographic map)

Total depth: 2,581'

Reported formation tops: (drillers log)
anhydrite 1,260' (scout ticket)
anhydrite 1,373'
salt 1,654'

Geophysical logs: Halliburton Electric Well Log 188'-1,696', Schlumberger Pipe Analysis Log 0-1,650', Micro Gage, Inc. Interface Survey 1,600'-2,200', Density Survey 0-2,224', Cement Bond Log W/ Seismic Spectrum Display 0-1,650'

Comments: Liquefied petroleum gas storage in salt cavern. Cavern in communication with Warren No. 2 Warren.

Completed: 12/1951

Well: Warren Petroleum Corporation No. 2 Warren Petroleum Corporation (Hattiesburg LPG)

API well number: 23-035-00249

Location: 400' FWL and 175' FSL of SW/4 of SW/4 of Section 25-T5N-R13W (map no. 36)

Elevation: 158' GL (topographic map)

Total depth: 2,637'

Reported formation tops: (drillers log)

anhydrite 1,148'
anhydrite 1,264' (Alan Jackson)
salt 1,645'

Geophysical logs: Halliburton Electric Well Log 200'-1,727', Schlumberger Dual Spacing Thermal Neutron Decay Time 20'-1,600', Pipe Analysis Log 80'-1,600', Micro Gage, Inc. Interface Survey, Cement Bond Log W/ Seismic Spectrum Display 100'-1,630', Density Survey 0-1,750'

Comments: Liquefied petroleum gas storage in salt cavern. Drilled to 1,821' in salt, cored 1,821'-30', recovered 4' anhydrite and salt, 3' salt. Location also given as 800' N and 800' E in SW/4 on some workover permits. Cavern in communication with Warren No. 1 Warren.

Completed: 2/1952

Well: Warren Petroleum Corporation No. 3 Warren Petroleum Corporation (Petal Storage)

API well number: 23-035-00250

Location: 400' FWL and 675' FSL of SW/4 of SW/4 of Section 25-T5N-R13W (map no. 37)

Elevation: 158' GL (topographic map)

Total depth: 2,772'

Reported formation tops: (drillers Log)
anhydrite 1,270'
salt 1,654'

Geophysical logs: CRC Wireline, Inc. Acoustic Cement Evaluation Log 0-1,653', P.I.P.E. 0-1,653', Temperature Density Interface Survey 100'-2,110', Micro Gage, Inc. Interface Survey, Density Survey 1,600'-1,800' and 0-1,742', Interface Density Survey 0-1,744'

Comments: Liquefied petroleum gas storage in salt cavern. Location also given as 1,300' N and 800' E in SW/4 on a workover permit. Cavern in communication with Warren Petroleum Corporation No. 4 Hattiesburg LPG Storage.

Completed: 2/1952

Well: Warren Petroleum Corporation No. 4 Hattiesburg LPG Storage

API well number: 23-035-00466

Location: 233' FWL and 425' FSL of NW/4 of SW/4 of Section 25-T5N-R13W (map no. 38)

Elevation: 158' GL (topographic map)

Total depth: 2,645'+ (set 4" casing to 2,645')

Reported formation tops: (Alan Jackson)
anhydrite 1,237'
salt 1,647'

Geophysical logs: CRC Wireline, Inc. P.I.P.E. 0-1,648', Temperature Density Interface Survey, Fluid Density Survey, Schlumberger Dual Spacing Thermal Neutron Decay Time 50'-1,620', Micro Gage, Inc. Cement Bond Log W/ Seismic Spectrum Display

Comments: Liquefied petroleum gas storage in salt cavern. Cavern is in communication with cavern of Warren Petroleum Corporation No. 3 Warren Petroleum Corporation (Petal Storage).

Completed: 3/1956

Well: Warren Petroleum Corporation No. 5 LPG Storage
API well number: 23-035-20082
Location: 300' FNL and 200' FWL of SW/4 of NW/4 of Section 25-T5N-R13W (map no. 39)
Elevation: 235' GL (topographic map)
Total depth: 4,600'
Reported formation tops: (driller)
 cap rock 1,305'
 salt 1,731'
Geophysical logs: Schlumberger Dual Induction-SFL 186'-1,315', Compensated Neutron-Formation Density 1,100'-1,875' and 2,194'-4,602', Micro Gage, Inc. Interface Survey, CRC Wireline, Inc. Acoustic Cement Evaluation Log Gamma Ray 50'-2,180', Dresser Atlas Caliper Log 1,868'-2,236', Vertilog 0-2,100'
Comments: Liquefied petroleum gas storage in salt cavern.
Completed: 6/1981

Well: Warren Petroleum Corporation No. 6 LPG Storage
API well number: 23-035-20118
Location: 200' FSL and 200' FWL of SW/4 of NW/4 of Section 25-T5N-R13W (map no. 40)
Elevation: 248' GL, 210' GL (topographic map), 278' KB,
Total depth: 4,160'
Reported formation tops: (Alan Jackson)
 cap rock 1,314'
 salt 1,652'
Geophysical logs: Atlas Wireline Services Dual Induction Focused Log Gamma Ray 89'-1,481', Densilog Neutron Spectralog Caliper 20'-4,150', Densilog-Neutron Gamma Ray 374'-1,481', Densilog Gamma Ray 1,402'-2,557'
Comments: Natural gas storage in salt cavern. Logged 4/6/1992, no completion date in Mississippi State Oil and Gas Board well file.
Completed:

Well: Delta Underground Storage, Inc. No. 3-A (Delta Underground Storage) L.P.G. Storage
API well number: 23-035-20065
Location: 200' W and 150' S of NE/corner of NE/4 of NE/4 of Section 26-T5N-R13W (map no. 41)
Elevation: 174' GL, 184' DF
Total depth: 3,250'
Reported formation tops: (Mississippi State Oil and Gas Board well file)
 cap rock 1,297'
 salt 1,648'
Geophysical logs: Dresser Atlas Densilog 50'-3,238'
Comments: Liquefied petroleum gas storage in salt cavern, with capacity of 100 million gallons (approximately 2.4 million barrels).
Completed: 10/1979

Well: Mobil Oil Corporation (Anchor Petroleum Company) (Allied Chemical Corp.) No. 1 Mobil Fee (Anchor Petroleum Company Fee)
API well number: 23-035-00004
Location: 228' E (approximately 990' WEL) and 855' S of intersection of N line of Section 26 and R/W of NO and NE

R.R. in NE/4 of NE/4 of Section 26-T5N-R13W (also given as 125' FSL and 175' FEL of Mobil's Max Watts lease; NW quarter of the SE quarter of section) (map no. 42)
Elevation: 156' GL (Mississippi State Oil and Gas Board exhibit)
Total depth: 3,015'
Reported formation tops: (Mississippi State Oil and Gas Board exhibit)
 cap rock 1,252'
 salt 1,630'
Geophysical logs: Schlumberger electrical log 215'-1,643'
Comments: Mobil purchased Anchor Petroleum 1/1/1961. Liquefied Petroleum Gas storage cavern in salt with approximate one million barrels capacity. Cored salt 1,716'-36' and 1,805'-25'. Operator stated, "Electric Log ran to 1,643' solid salt below this depth."
Completed: 1/1953

Well: Mobil Oil Corporation (Anchor Petroleum Company) (Allied Chemical Corp.) No. 2 Mobil Fee (Anchor Petroleum Company Fee)
API well number: 23-035-00005
Location: 228' E (approximately 990' WEL) and 405' S of intersection of N line of Section 26 and R/W of NO and NE R.R. in NE/4 of NE/4 of Section 26-T5N-R13W (map no. 43)
Elevation: 156' GL (Alan Jackson)
Total depth: 3,060'
Reported formation tops: (Mississippi State Oil and Gas Board well file)
 anhydrite 1,230'
 salt 1,626'
Geophysical logs: No log run.
Comments: Mobil purchased Anchor Petroleum 1/1/1961. Liquefied petroleum gas storage cavern in salt with capacity of 900,000 barrels.
Completed: 2/1953

Well: Sippiala Corporation (Texas Gulf Sulphur Company, Inc.) No. 1 Richard Burrows (Burroughs)
API well number: 23-035-00173
Location: 1,050' FSL and 1,140' FEL of Section 26-T5N-R13W (map no. 44)
Elevation: 154' GL
Total depth: 1,370'
Reported formation tops: (scout ticket, Mellen)
 cap rock 1,198'
 anhydrite 1,201'
Geophysical logs: "No logs available on these core holes" (Mellen)
Comments: Sulphur test
Completed: D&A 11/1946

Well: Sippiala Corporation (Texas Gulf Sulphur Company, Inc.) No. 1 G. C. Smith
API well number: 23-035-00174
Location: 50' S and 341' W of point where N boundary of G. C. Smith property intersects W line of N.O. and N.E. R.R. right of way, Section 26-T5N-R13W (map no. 45)

Elevation: 152' GL
Total depth: 1,383'
Reported formation tops: (scout ticket, Mellen)
 anhydrite 1,283'
Geophysical logs: "No logs available on these core holes"
 (Mellen)
Comments: Sulphur test
Completed: D&A 11/1946

Well: Suburban Propane Division of Quantum Chemical Corporation (Suburban Propane Division of National Distillers & Chemical) (Texgas Corporation) (Union Texas Petroleum) (Skelly Oil Company) No. 1 Hattiesburg (Mississippi) L.P.G. Storage
API well number: 23-035-00178
Location: 1,850' FEL and 600' FNL of Section 26-T5N-R13W (map no. 46)
Elevation: 153' GL, 162' DF, 164' KB
Total depth: 2,551', deepened to 3,025' in 11/1953
Reported formation tops: (Mississippi State Oil and Gas Board well file)
 salt 1,637' (core)
Geophysical logs: Lane Wells Radioactivity Log Gamma Ray Neutron 0-2,551'
Comments: Liquefied petroleum gas storage in salt cavern. Sixteen cores cut between 1,602'-2,551'. Four additional cores cut between 2,551'-3,025' while deepening. Cavern volume 812,686 barrels.
Completed: 11/1953

Well: Suburban Propane Division of Quantum Chemical Corporation (Suburban Propane Division of National Distillers & Chemical) (Texgas Corporation) (Union Texas Petroleum) (Skelly Oil Company) No. 2 UTP Storage Well (Suburban Storage Well No. 2) (LPG Storage Well No. 2) (Petal Salt Dome No. 2) (Hattiesburg L.P.G. Storage) (Mississippi L.P.G. Storage No. 2 on log header)
API well number: 23-035-00179
Location: 215' SNL and 1,850' WEL of Section 26-T5N-R13W (map no. 47)
Elevation: 153' GL, 163' DF
Total depth: 3,004'
Reported formation tops: (Mississippi State Oil and Gas Board well file)
 cap rock 1,315' (Alan Jackson)
 in anhydrite 1,590' (core)
 salt 1,639' (core)
 salt 1,684' (Alan Jackson)
Geophysical logs: Lane Wells Radioactivity Log Gamma Ray Neutron 0-3,004'
Comments: Liquefied petroleum gas storage in salt cavern
Completed: 11/1953

Well: Suburban Propane Division of Quantum Chemical Corporation (Suburban Propane Division of National Distillers & Chemical) (Texgas Corporation) (Union Texas

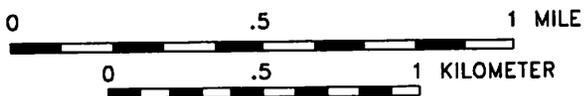
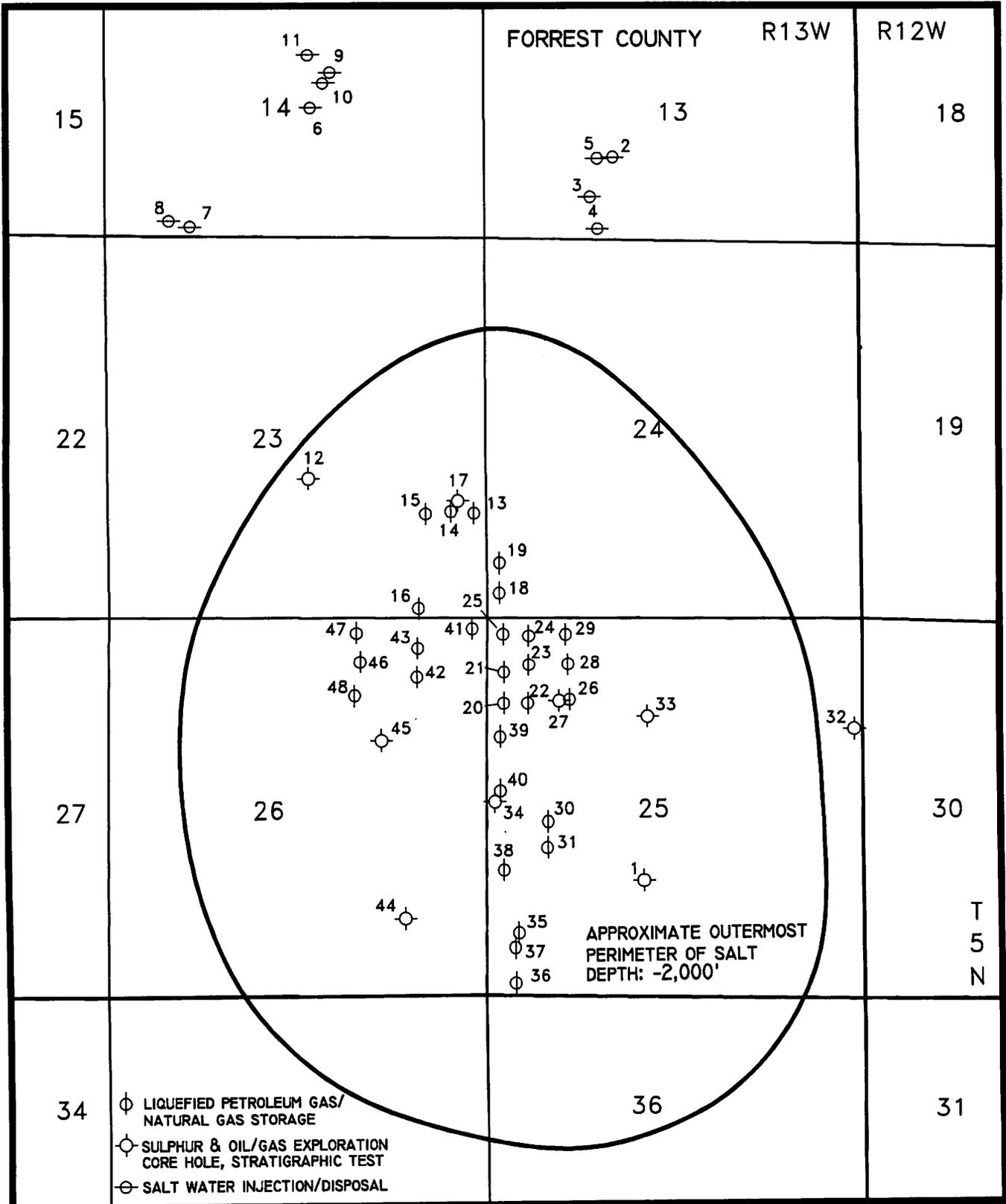
Petroleum) No. 2 Petal Salt Dome (Suburban Storage Well (LPG) (UTP Storage Well)
API well number: 23-035-00179
Location: 1,883' WEL and 1,056' SNL of NE/4 of Section 26-T5N-R13W (map no. 48)
Elevation: 153' GL
Total depth: 4,706'
Reported formation tops:
Geophysical logs: Density Neutron
Comments: Liquefied petroleum gas storage in salt cavern.
Completed: 3/1980

The following information is from the Mississippi State Oil and Gas Board as of 5/1995, and is included to give an idea of storage cavern capacity at Petal Dome. Volume information was not available for all storage wells.

Company	storage well number	storage capacity in barrels
Warren	3	1,066,514
Warren	4	1,855,985
Warren	5	2,396,969
Mobil	1	866,581
Mobil	2	609,421
Mobil	3	1,463,945
Suburban	1	812,698
Suburban	2	2,441,573
Hattiesburg	1	2,160 (BCFG)
Hattiesburg	2	2,160 (BCFG)
Hattiesburg	3-A	1,690 (BCFG)
Enterprise	1	1,229,007
Enterprise	2	1,365,394
Enterprise	3	511,704
Enterprise	4	826,420
Enterprise	5	614,752
Enterprise	6	1,307,567
Enterprise	9	1,182,888

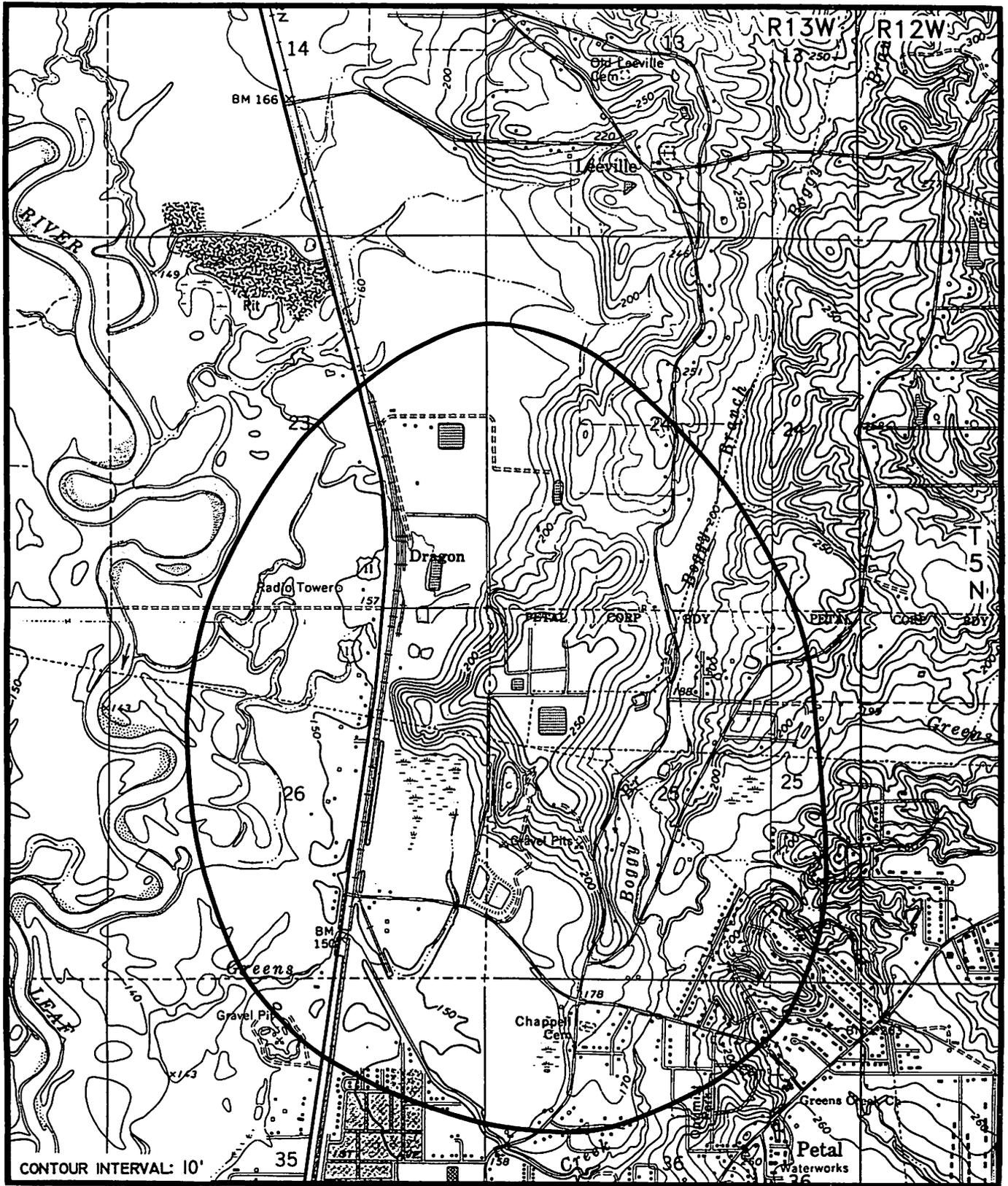
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PETAL DOME

FIGURE 116



PETAL DOME

FIGURE I17

PRENTISS SALT DOME**GENERAL DATA**

Location: Sections 23,24,25,26,35,36-T7N-R19W, Jefferson Davis County, Mississippi

USGS topographic map(s): Prentiss East, Prentiss West

Geophysical data: Regional Bouguer gravity shows the dome is associated with a minimum which covers slightly less than a township area and shows 20 milligals of relief.

Estimated size and shape: Circular, 1 mile diameter

Estimated base fresh water (10,000 ppm): -3,200'

Economic use: None to date

Shallowest known cap rock: 2,548' (Gulf Refining Company No. 1 R. V. Blackmon)

Shallowest known salt: 8,905', on the flank (Sinclair Oil & Gas Company No. 1 Nelda Burkett Rankin Unit)

Oldest formation penetrated within one mile of dome: Upper Cretaceous Eutaw Formation (Sinclair No. 1 Rankin)

Nearest oil or gas production: South Prentiss Field, 2 miles south of the dome, produces from the Lower Cretaceous Hosston Formation.

DRILLING HISTORY

Discovery well: Gulf Refining Company No. 1 R. V. Blackmon

API well number: 23-065-00012

Location: 660' W and 760' S from NE/corner of NW/4 of Section 25-T7N-R19W

Elevation: 275' GL

Total depth: 2,691'

Reported formation tops: (scout ticket)

Vicksburg	828'
Yazoo	932'
Moodys Branch	1,125'
Yegua	1,145'
Wautubbee	1,303'
Camerina	1,327'
Sparta	1,430'
Zilpha	1,662'
Tallahatta	1,765'
Wilcox	1,955'
cap rock	2,548' (Mellen)

Geophysical logs: Schlumberger electrical log 151'-2,691'

Comments:

Completed: D&A 8/1943

Additional drilling:

Well: Mobil Oil Corporation No. 1 Nelda B. Rankin

API well number: 23-065-00171

Location: 875' FSL and 2,125' FEL of Section 26-T7N-R19W

Elevation: 264' GL, 274' DF, 275' KB

Total depth: 4,807'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Vicksburg	1,030'
Yazoo	1,193'
Sparta	1,992'
Wilcox	2,715'
base Big Shale	4,123' (scout ticket)

Geophysical logs: Schlumberger Induction-Electrical Log 430'-4,806'

Comments: Cored 4,657'-73', recovered 16' shale. Took 12 sidewall cores, 2,831'-4,734', all no show.

Completed: D&A 12/1966

Well: Sinclair Oil & Gas Company No. 1 Nelda Burkett Rankin Unit

API well number: 23-065-00122

Location: 875' FSL and 2,100' FEL of Section 26-T7N-R19W

Elevation: 264' GL

Total depth: 11,008'

Reported formation tops: (Mississippi State Oil and Gas Board well file)

Cockfield	1,580' (1,579' TVD)
Sparta	1,845' (1,844' TVD)
Wilcox	2,786' (2,785' TVD)
Selma	5,796' (5,787' TVD)
Eutaw	6,517' (6,503' TVD)
anhydrite cap rock	8,820' (8,799' TVD)
salt	8,905' (8,884' TVD)

Geophysical logs: Schlumberger Induction-Electrical Log 50'-11,008'

Comments: Reported asphaltic shows 7,300'-20' by mud-logger. Took 19 sidewall cores 6,595'-7,765', all no show except shows of asphalt at 7,765'. TVD correction at TD, 11,000'=10,870' TVD. At TD the well is 582' W and 60' S of surface location. "...used for refraction work." (Mellen)

Completed: D&A 10/1959

Well: Exchange Oil Company No. 1 J. J. Newman Lumber Company

API well number: 23-065-00123

Location: 330' FSL and 330' FEL of NE/4 of Section 36-T7N-R19W

Elevation: 450' DF

Total depth: 5,025'

Reported formation tops: (scout ticket)

Vicksburg	1,467'
Moodys Branch	1,898'
Claiborne	1,944'
Cockfield	2,262'
Sparta	2,378'

Cane River 2,966'
 Tallahatta 3,127'
 Wilcox 3,442'

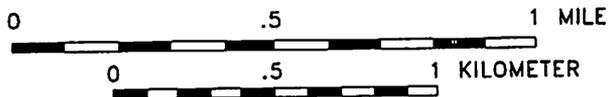
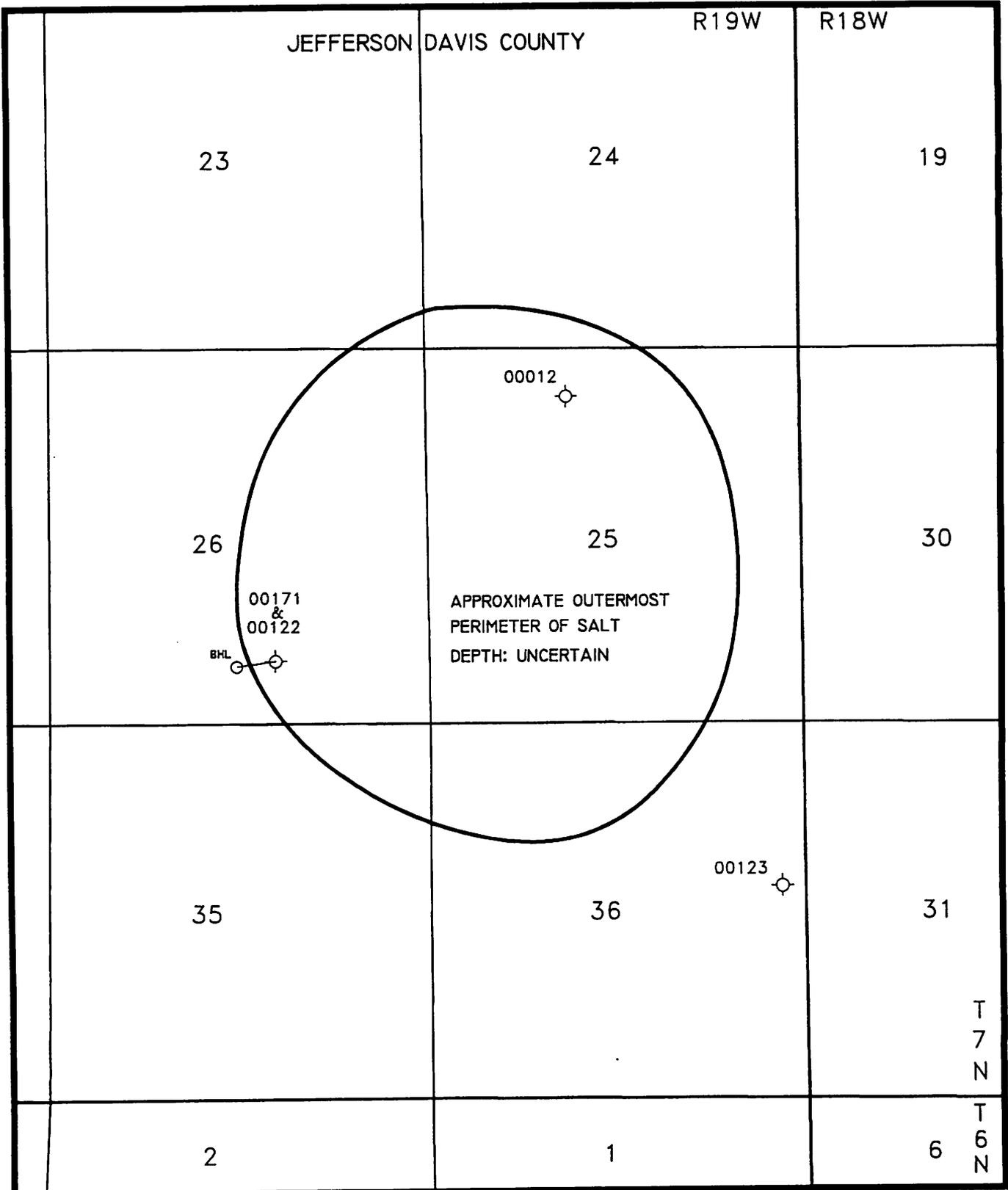
Geophysical logs: Schlumberger electrical log 508'-5,024'

Comments: Operator name shown in Petroleum Information computerized well files as Sinclair Wyoming Oil, and on Geomap Company maps as Sinclair et al. Cored 2,694'-710', recovered 16' sand and shale; 2,710'-26'(?), recovered 13'5" shale.

Completed: D&A 9/1940

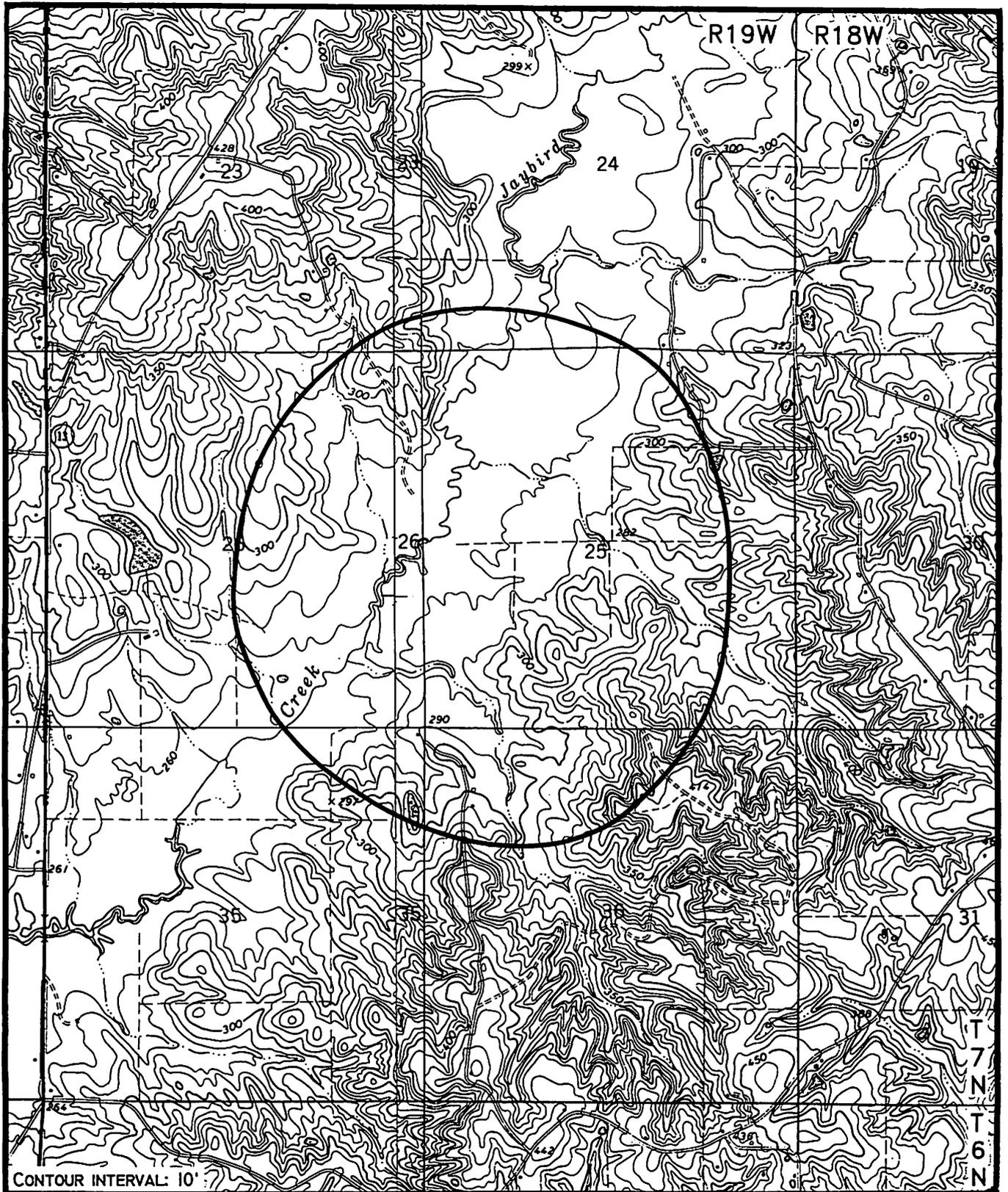
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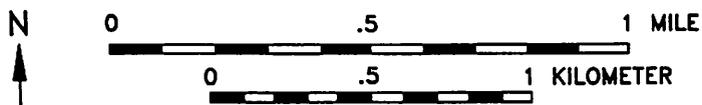


PRENTISS DOME

FIGURE I18



CONTOUR INTERVAL: 10'



PRENTISS DOME
FIGURE 119

RALEIGH SALT DOME**GENERAL DATA**

Location: Sections 17,18,19,20-T2N-R8E, Smith County, Mississippi

USGS topographic map(s): Center Ridge, Cohay, Louin SW, Raleigh

Geophysical data: Early work showed a strong minimum 5 miles in diameter with 20 milligals of relief.

Estimated size and shape: Circular, 1 mile in diameter

Estimated base fresh water (10,000 ppm): -4,300'

Economic use: None to date

Shallowest known cap rock: 1,490' (Central Oil Company No. 1 Central Oil Unit 17-14)

Shallowest known salt: 2,132' (Central Oil Company No. 1 Central Oil Unit 17-14)

Oldest formation penetrated within one mile of dome: Upper Jurassic Smackover Formation (Placid No. 1 Corley)

Nearest oil or gas production: Raleigh Field, 4 miles west of the dome, produces from the Lower Cretaceous Paluxy, Rodessa, Pine Island, Sligo and Hosston formations.

DRILLING HISTORY

Discovery well: Central Oil Company No. 1 Central Oil Unit 17-14

API well number: 23-129-00081

Location: 636' FNL and 522' FEL of SE/4 of SW/4 of Section 17-T2N-R8E

Elevation: 433' DF

Total depth: 3,615'

Reported formation tops: (scout ticket)

cap rock 1,490'

salt 2,132'

Geophysical logs: Schlumberger Gamma Ray 950'-3,613'

Comments: no cores taken

Completed: D&A 4/1964

Additional drilling:

Well: Cities Service No. 1 Bryant

API well number: 23-129-00092

Location: 660' FNL and 660' FWL of Section 29-T2N-R8E

Elevation: 483' DF

Total depth: 12,775'

Reported formation tops: (scout ticket)

chalk 5,150'

base chalk 6,410'

Lower Tuscaloosa 7,803'

Lower Cretaceous 8,223'

Paluxy 9,316'(?)

Ferry Lake anhydrite 11,160'

base Ferry Lake anhydrite 11,230'

Hosston 12,208'

Geophysical logs: Schlumberger Induction-Electrical log 2,026'-12,775'

Comments:

Completed: D&A 1/1959

Well: Placid Oil Company No. 1 Placid Oil Company-Paramount- Valioso-Corley et al. 17-7

API well number: 23-129-20238

Location: 2,263' FNL and 2,413' FEL of Section 17-T2N-R8E

Elevation: 476' GL, 499' KB

Total depth: 17,865'

Reported formation tops: (operator)

chalk 4,530'

Eutaw 6,330'

marine shale 6,542'

Lower Tuscaloosa 6,852'

Lower Cretaceous 8,060'

Paluxy 9,188'

Mooringsport 10,650'

Rodessa 11,215'

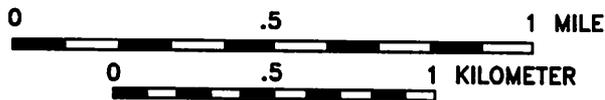
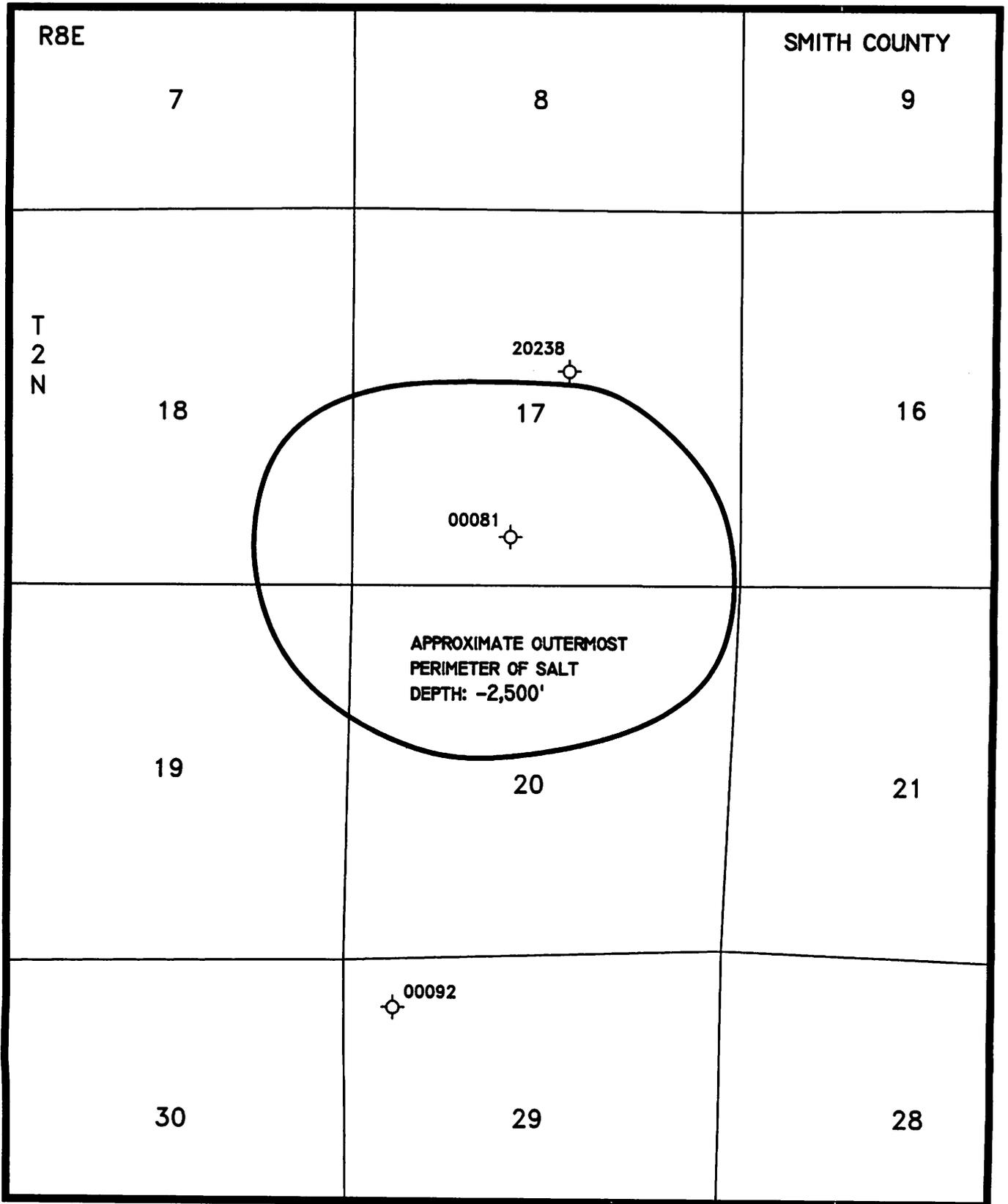
Sligo 11,790'

Smackover 15,100'

Geophysical logs:

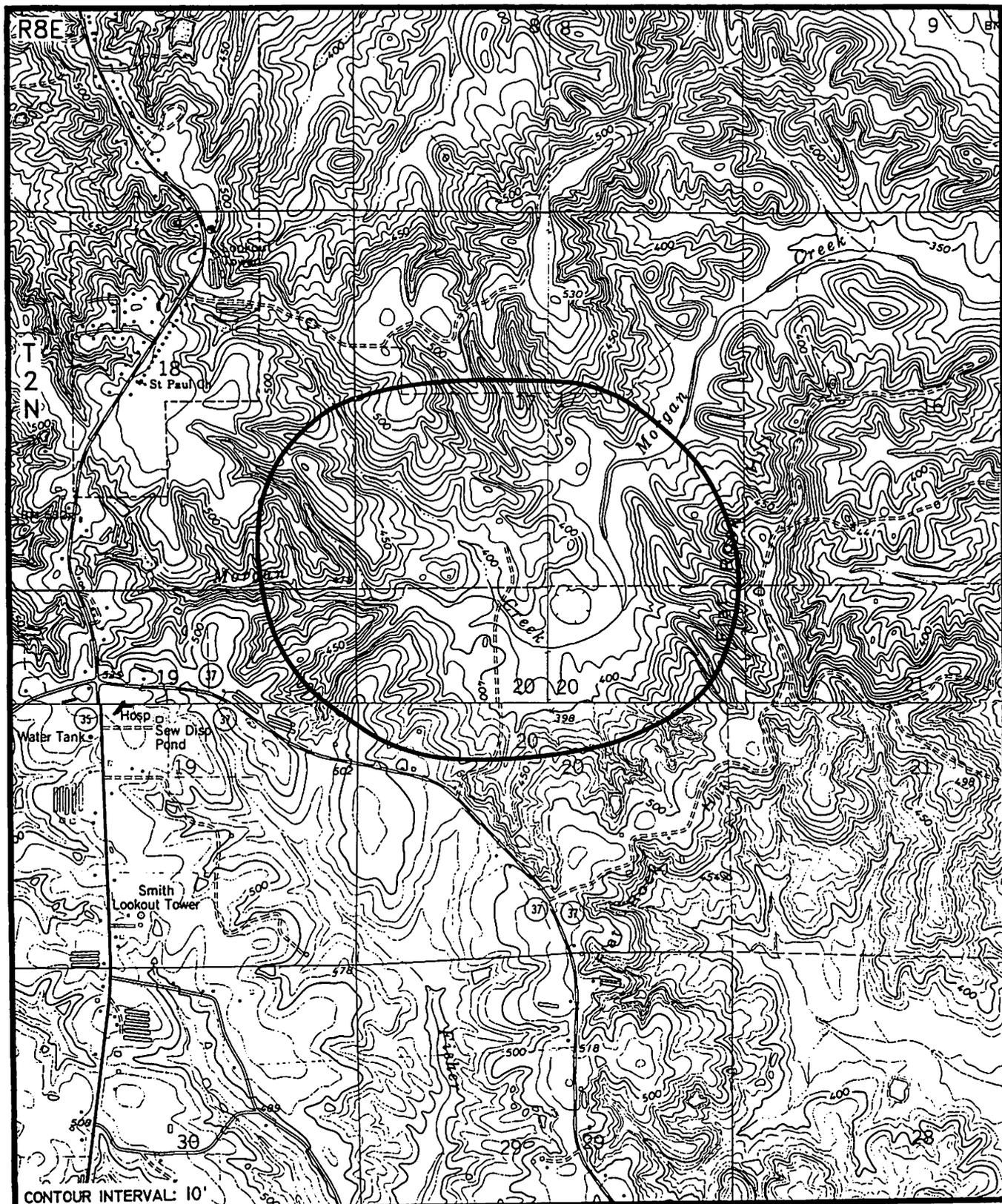
Comments: Top of fish at 11,340', could not recover.

Completed: J&A 3/1991

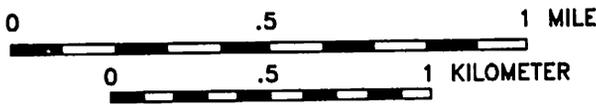


RALEIGH DOME

FIGURE I20



CONTOUR INTERVAL: 10'



RALEIGH DOME

FIGURE 121

RICHMOND SALT DOME (SUMRALL)

GENERAL DATA

Location: Sections 16,17,18,19,20,21-T6N-R15W, Covington County, Mississippi

USGS topographic map(s): Sumrall

Geophysical data: Regional Bouguer gravity shows a large minimum which covers nearly a township area and has over 40 milligals of relief.

Estimated size and shape: Roughly oval, 1 mile in diameter northeast-southwest and 1.75 miles in diameter northwest-southeast.

Estimated base fresh water (10,000 ppm): -2,500'

Economic use: None to date

Shallowest known cap rock: 1,609' (Freeport Sulphur Company No. 1 Mrs. M. Beasley)

Shallowest known salt: 1,954' (Freeport Sulphur Company No. 1 Mrs. P. Scarborough)

Oldest formation penetrated within one mile of dome: There are no flank wells.

Nearest oil or gas production: Bowie Creek Field is 3.5 miles to the northwest and produces from the Lower Cretaceous Hosston Formation.

DRILLING HISTORY

Discovery well: Freeport Sulphur Company No. 1 Mrs. M. Beasley

API well number: 23-031-00011

Location: 194' FSL and 1,550' FEL of Section 17-T6N-R15W

Elevation: 231' (?) (Mississippi State Oil and Gas Board well file), 231' GL (topographic map)

Total depth: 1,740'

Reported formation tops: (drillers log)

Vicksburg	731'
cap rock	1,609'
anhydrite	1,650'

Geophysical logs:

Comments: Sulphur test.

Completed: D&A 11/1944

Additional drilling:

Well: Freeport Sulphur Company No. 1 Mrs. P. Scarborough

API well number: 23-031-00012

Location: 2,320' FSL and 1,580' FEL of Section 17-T6N-R15W

Elevation: 272' (?) (Mississippi State Oil and Gas Board well file), 272' GL (topographic map)

Total depth: 2,070'

Reported formation tops: (drillers log)

Vicksburg	1,189'
cap rock	1,837'
anhydrite	1,842'
gypsum	1,857'
shale	1,913'
cap rock	1,918'
anhydrite	1,940'
salt	1,954'

Geophysical logs:

Comments: Mellen reported strong odor of oil and gas in cap rock. Sulphur test

Completed: D&A 12/1944

Well: Freeport Sulphur Company No. 1 F. W. Watts

API well number: 23-031-00013

Location: 1,600' FNL and 550' FEL of Section 20-T6N-R15W

Elevation: 214' (?) (Mississippi State Oil and Gas Board well file), 219' GL (topographic map)

Total depth: 1,808'

Reported formation tops: (drillers log)

cap rock	1,708'
anhydrite	1,740'

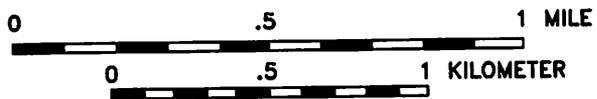
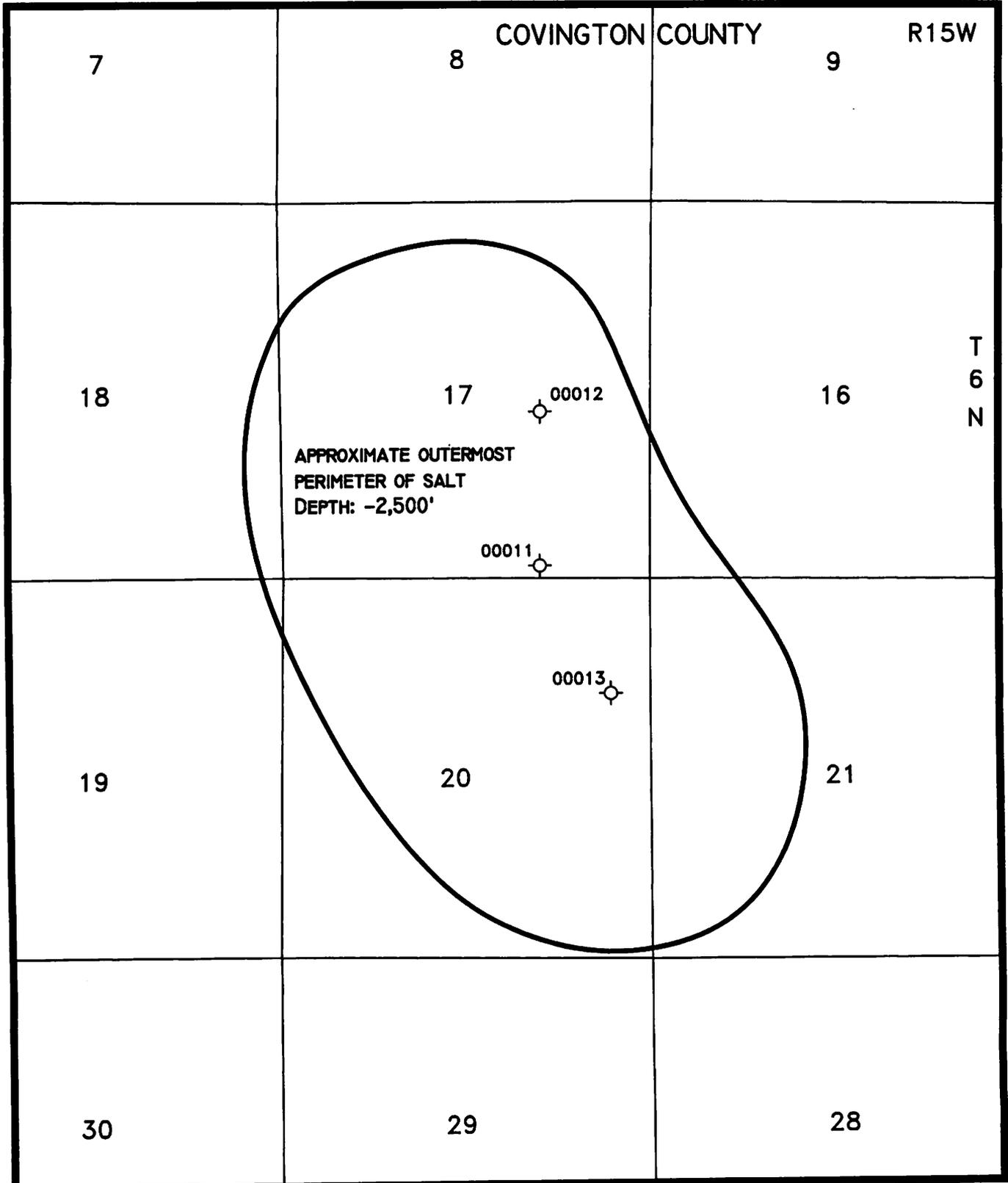
Geophysical logs: "Logged 1718'" (Mellen)

Comments: Sulphur test

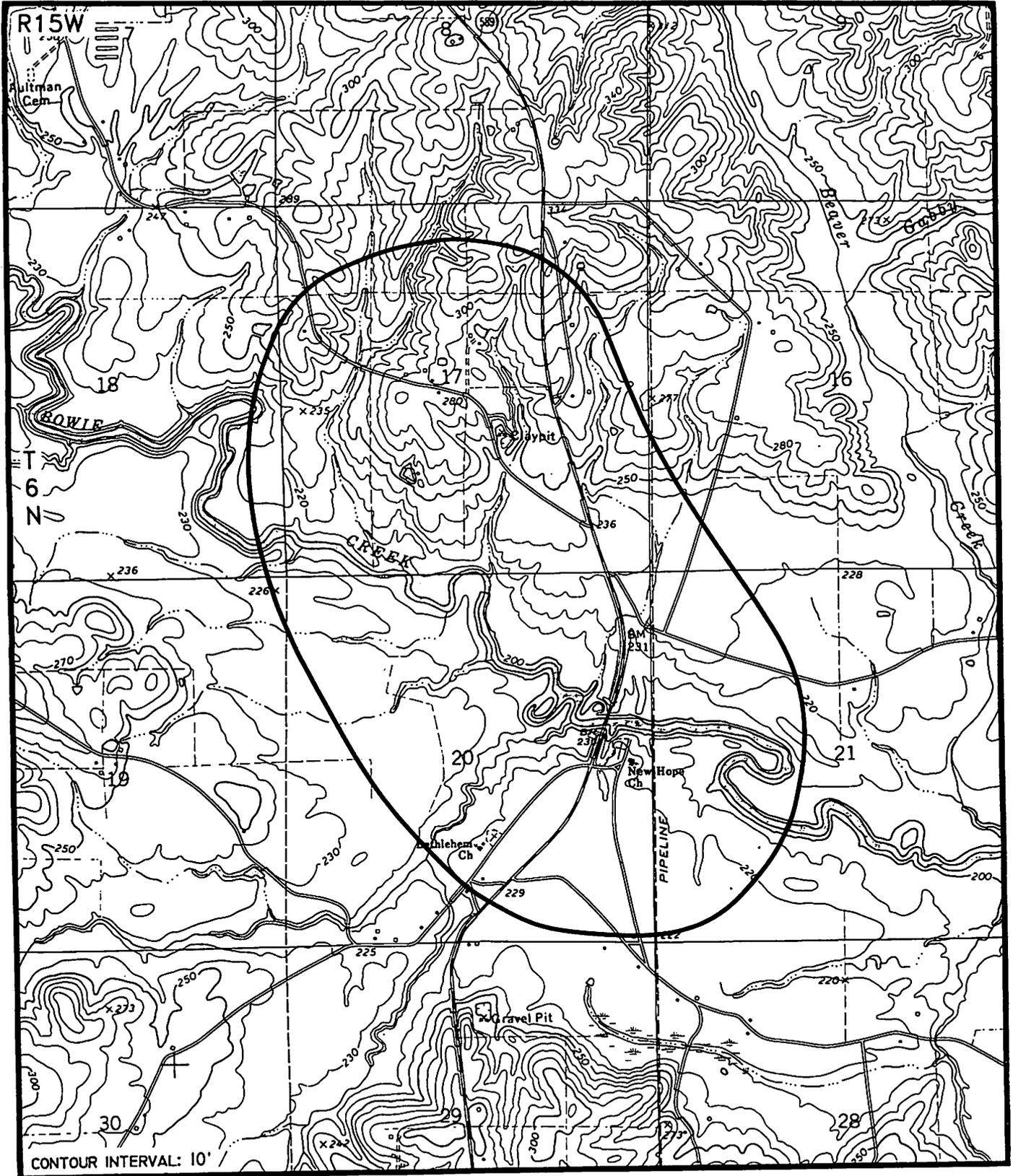
Completed: D&A 12/1944

SELECTED REFERENCES

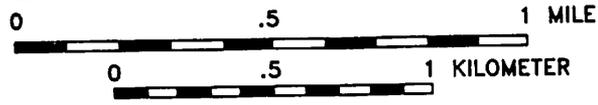
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RICHMOND DOME
FIGURE 122



CONTOUR INTERVAL: 10'



RICHMOND DOME
FIGURE 124

RICHTON SALT DOME

GENERAL DATA

Location: Sections 21,22,23,25,26,27,28,34,35,36-T5N-R10W and Sections 1,2,3,11,12-T4N-R10W, Perry County, Mississippi

USGS topographic map(s): Ovett, Ovett SE, Richton, Rhodes

Geophysical data: Regional Bouguer gravity shows a large minimum which covers about a two township area and has over sixty milligals of relief.

Estimated size and shape: Elongated northwest-southeast, 5 miles long and 2 miles wide.

Estimated base fresh water (10,000 ppm): -1,400'

Economic use: None to date. Richton Dome was intensively investigated in 1992 and 1993 by the Mississippi Office of Geology and Office of Land and Water Resources, and the U.S. Department of Energy for possible inclusion in the Strategic Petroleum Reserve. This program has not been either completed or cancelled, and it is possible that Richton Dome will be included in the future. The Strategic Petroleum Reserve program was begun in the 1970s. Its objective was to store enough oil for the U. S. A. to operate for at least six months without any additional imported oil in case of a disruption in foreign supplies.

At least one petroleum company is known to have taken leases on part of Richton Dome for construction of gas storage facilities. This project was never taken to completion because of suspected shear or fault zones in the salt stock (Julius M. Ridgway). Swann reported that acreage had been purchased with the intent of conducting brining operations which were never begun.

The Gulf, Mobile & Ohio Railroad investigated Richton Dome in the late 1950s as part of a program promoting industrial development along its railroads. This study concluded that an area of approximately 5.5 square miles was minable. Development of an underground mine by means of a 900' deep shaft to the first operating level was proposed. No action was ever taken on this idea.

Shallowest known cap rock: 453' (Law Engineering Testing Company Site/No. MRIG-303, a "series 300" shallow boring)

Shallowest known salt: 722' (Exploro Corporation No. 7 Masonite Corporation).

Oldest formation penetrated within one mile of dome: Jurassic Cotton Valley Formation (Chevron USA #1 Leaf River 21-3)

Nearest oil or gas production: Glazier Field, 2.5 miles south, produces from the Upper Cretaceous Eutaw, Upper Tuscaloosa and Lower Tuscaloosa formations. Tiger Field, 2.5 miles north, produces from the Lower Cretaceous Hosston Formation.

DRILLING HISTORY

Discovery well: Exploro Corporation No. 1 W. E. Carter

API well number: 23-111-00012

Location: 660' N and 660' W of SE/corner of NW/4 of SE/4 of Section 35-T5N-R10W (map no. 1)

Elevation: 224' (?) (Mississippi State Oil and Gas Board well file), 228' DF (scout ticket)

Total depth: 700'

Reported formation tops: (drillers log and scout ticket)

cap rock 532'

anhydrite 603'

Geophysical logs:

Comments: Sulphur test, salt not reached.

Completed: D&A 10/1944

Additional drilling:

Well: Minsearch Corporation No. 1 Mrs. Eva Carey

API well number: 23-111-00050

Location: 100' S and 100' E of NW/corner of NW/4 of NE/4 of Section 1-T4N-R10W (map no. 2)

Elevation: 235' GL (topographic map)

Total depth: 1,312'

Reported formation tops: (drillers log and scout ticket)

cap rock 1,200'

anhydrite 1,212'

Geophysical logs:

Comments: Sulphur test, salt not reached.

Completed: D&A 2/1945

Well: Minsearch Corporation No. 2(2A) Mrs. Eva Carey

API well number: 23-111-00052

Location: 265' E and 242' S of NW/corner of NE/4 of NE/4 of Section 1-T4N-R10W (map no. 3)

Elevation: 198' GL (topographic map), 202' DF (scout ticket)

Total depth: 2,000'

Reported formation tops: Domal material not encountered.

Geophysical logs:

Comments: No domal material encountered; sulphur test. "Normal section total depth on electric log." (Mellen)

Completed: D&A 2/1945

Well: Minsearch Corporation No. 1 E. C. Fishel

API well number: 23-111-00054

Location: 150' W and 100' N of SE/corner of SE/4 of NW/4 of Section 1-T4N-R10W (map no. 4)

Elevation: 225' GL (topographic map)

Total depth: 979'

Reported formation tops: (scout ticket)

anhydrite 879'

Geophysical logs:

Comments: The location plat in the Mississippi State Oil and Gas Board well file shows the location as approximately 900' FWL and 1,900' FNL of section 1, or in the SW/4 of the NW/4 of the section. On this same plat the typed footage location on the bottom of the form is 150' W and 100' N of the SE corner of SE/4 of NW/4. Sulphur test, salt not reached.

Completed: D&A 1/1945

Well: Minsearch Corporation No. 2 W. E. Carter

API well number: 23-111-00053

Location: 450' S and 100' W of NE/corner of SE/4 of NE/4 of Section 2-T4N-R10W (map no. 5)

Elevation: 184' DF

Total depth: 682'

Reported formation tops: (drillers log)

cap rock 567'

anhydrite 581'

Geophysical logs:

Comments: According to the Mississippi State Oil and Gas Board well file formation record portion of the completion report, the anhydrite shows faulting from 587'-637'. Sulphur test, salt not reached.

Completed: D&A 2/1945

Well: Minsearch Corporation No. 1 J. W. Pope

API well number: 23-111-00055

Location: 356' S and 75' W of NE/corner of NW/4 of NE/4 of Section 2-T4N-R10W (map no. 6)

Elevation: 206' DF

Total depth: 583'

Reported formation tops: (drillers log))

anhydrite 568'

Geophysical logs:

Comments: Sulphur test, salt not reached.

Completed: D&A 1/1945

Well: Minsearch Corporation No. 2 J. W. Pope

API well number: 23-111-00056

Location: 125' N and 182' W of SE/corner of NW/4 of SE/4 of Section 2-T4N-R10W (map no. 7)

Elevation: 261' DF

Total depth: 1,591'

Reported formation tops: (drillers log)

anhydrite 1,111'

Geophysical logs:

Comments: Sulphur test, salt not reached.

Completed: D&A 1/1945

Well: Minsearch Corporation No. B-12 L. E. Ridgway

API well number: 23-111-00063

Location: 400' N and 150' W of SE/corner of NW/4 of NW/4 of Section 2-T4N-R10W (map no. 8)

Elevation: 234' DF

Total depth: 873'

Reported formation tops: (drillers log)

cap rock 720'

anhydrite 773'

Geophysical logs:

Comments: Sulphur test, salt not reached.

Completed: D&A 12/1944

Well: Union Oil Company of California No. 1 Masonite 9-6

API well number: 23-111-20033

Location: 1,350' FNL and 1,525' FWL of Section 9-T5N-R10W (map no. 9)

Elevation: 167' GL, 198' DF, 199' KB

Total depth: 15,306' sidetrack hole, 12,106' original hole

Reported formation tops:

Geophysical logs: Dresser Atlas Dual Induction Focused Log 6,005'-15,274', Densilog Neutron 7,500'-15,274', BHC Acoustilog 13,000'-15,211', Diplog 11,500'-15,255'

Comments: Total depth of original hole was 12,106'. Lost drill pipe in the original hole at 12,106' and could not recover. Plugged back to approximately 8,000' and sidetracked at an unreported depth. Reported in Hosston Formation at total depth in sidetrack hole.

Completed: D&A 3/1979

Well: Shell Oil Company No. 1 Masonite et al.

API well number: 23-111-20002

Location: Surface location 960' FSL and 175' FWL of Section 14-T5N-R10W. Proposed bottom hole location 660' FSL and 660' FWL of Section 23-T5N-R10W (map no. 10)

Elevation: 241' GL, 272' DF, 273' KB

Total depth: 12,969'

Reported formation tops:

Geophysical logs: Dresser Atlas Dual Induction Focused Log 1,502'-12,918'

Comments: In salt at total depth of 12,969'. Set casing and tested trace salt water from perforations 11,758'-821', 12,025'-50', and 12,332'-64'. Tested perforations 11,617'-59' dry.

Completed: D&A 2/1974

Well: Chevron U.S.A. No. 1 Leaf River 21-3

API well number: 23-111-20089

Location: 500' FNL and 1,980' FWL of Section 21-T5N-R10W (map no. 11)

Elevation: 179' GL, 204' DF, 205' KB

Total depth: 18,031' sidetrack hole

Reported formation tops: (scout report)

chalk 5,595'

base chalk 6,867'

Lower Tuscaloosa 8,200'

Lower Cretaceous 8,730'

Paluxy 10,530'

base Ferry Lake 12,329'

Hosston 13,329'

Cotton Valley 15,460'

Geophysical logs: Schlumberger Phasor Induction-SFL-Sonic 569'-18,012' (original hole and sidetrack hole), Compensated Neutron-Litho Density 3,890'-7,274' (original hole). Dipmeter and cores are also listed as being run on log heading.

Comments: Lost fish and could not recover. Set whipstock at 5,579' and sidetracked. Scout report shows no cores or drill stem tests.

Completed: D&A 11/1989

Well: Shell Oil Company No. 1 Masonite 21-1

API well number: 23-111-20006

Location: 1,224' FNL and 820' FEL of Section 21-T5N-R10W (map no. 12)

Elevation: 202' GL, 233' DF, 234' KB

Total depth: 14,501'

Reported formation tops:

Geophysical logs: Dresser Atlas Dual Induction Focused Log 2,405'-14,499'. According to the Mississippi State Oil and Gas Board well file a compensated density log and a sidewall neutron were run also.

Comments: In salt at total depth 14,501'.

Completed: D&A 1/1973

Well: Exploro Corporation No. 1 Masonite Corporation

API well number: 23-111-00013

Location: 1,100' S and 50' W of NE/corner of Section 22-T5N-R10W (map no. 13)

Elevation: 250' GL (topographic map), 255.5' (?), 258' DF

Total depth: 856'

Reported formation tops: (drillers log)

cap rock	727'
anhydrite	763'
salt	851'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 11/1944

Well: Exploro Corporation No. 3 Masonite Corporation

API well number: 23-111-00015

Location: 100' N and 200' E of SW/corner of Section 22-T5N-R10W (map no. 14)

Elevation: 228' DF

Total depth: 739'

Reported formation tops: (drillers log)

cap rock	635'
anhydrite	697'
salt	737'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 10/1944

Well: Exploro Corporation No. 7 Masonite Corporation

API well number: 23-111-00019

Location: 800' S and 600' W of NE/corner of NE/4 of SE/4 of Section 22-T5N-R10W (map no. 15)

Elevation: 214' DF

Total depth: 735'

Reported formation tops: (drillers log)

cap rock	650'
anhydrite	670'
salt	722'

Geophysical logs:

Comments: Salt core from 722'-35' analyzed by Morton Salt Company. Sulphur test

Completed: D&A 12/1944

Well: Exploro Corporation No. 8 Masonite Corporation

API well number: 23-111-00020

Location: 600' S and 200' W of NE/corner of SE/4 of SW/4 of Section 22-T5N-R10W (map no. 16)

Elevation: 247' DF

Total depth: 765'

Reported formation tops: (drillers log)

cap rock	658'
----------	------

gypsum	694'
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anhydrite	700'
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anhydrite and salt	750'
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Geophysical logs:

Comments: Salt core from 760'-765' analyzed by Morton Salt Company. Sulphur test

Completed: D&A 11/1944

Well: Exploro Corporation No. 9 Masonite Corporation

API well number: 23-111-00021

Location: 400' W and 50' N of SE/corner of SE/4 of NW/4 of Section 22-T5N-R10W (map no. 17)

Elevation: 214' DF

Total depth: 740'

Reported formation tops: (drillers log)

cap rock	712'
gypsum	730'
salt	736'

Geophysical logs:

Comments: Sulphur test

Completed: D&A 11/1944

Well: Exploro Corporation No. 4 Masonite Corporation

API well number: 23-111-00016

Location: 506' E and 85' S of NW/corner of NE/4 of SW/4 of Section 23-T5N-R10W (map no. 18)

Elevation: 244' DF

Total depth: 771'

Reported formation tops: (drillers log)

anhydrite	750'
salt	770'

Geophysical logs:

Comments: Salt core from 770'-771' analyzed by Morton Salt Company. Sulphur test

Completed: 11/1944

Well: Exploro Corporation No. 5 Masonite Corporation

API well number: 23-111-00017

Location: 785' N and 292' W of SE/corner of SW/4 of SE/4 of Section 23-T5N-R10W (map no. 19)

Elevation: 213' DF

Total depth: 969'

Reported formation tops: (drillers log)

cap rock	852'
anhydrite	870'

Geophysical logs:

Comments: Sulphur test, salt not reached.

Completed: 11/1944

Well: Exploro Corporation No. 6 Masonite Corporation

API well number: 23-111-00018

Location: 203' N and 145' W of SE/corner of SW/4 of SW/4 of Section 23-T5N-R10W (map no. 20)

Elevation: 202' DF

Total depth: 632'

Reported formation tops: (drillers log)

cap rock	509'
anhydrite	531'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** 11/1944**Well:** Shell Oil Company No. 1 Masonite et al. 23-7**API well number:** 23-111-20005**Location:** 158' FSL and 378' FWL of W/2 of NE/4 of Section 23-T5N-R10W (map no. 21)**Elevation:** 251' GL, 282' DF, 283' KB**Total depth:** 14,930' sidetrack hole**Reported formaton tops:** (log, scout ticket)

Eutaw	7,412'
Lower Tuscaloosa	8,950'
Lower Cretaceous	9,510'
Paluxy	11,365'
Mooringsport	12,850'
Ferry Lake	13,074'
Rodessa	13,284'
salt	14,876'

Geophysical logs: Dresser Atlas Dual Induction Focused Log 3,944'-14,865'**Comments:** Accidentally sidetracked at 6,510' after drilling to total depth 6,965'. Shell had a severe problem maintaining a straight hole, and at a depth of 10,429' the bottom hole location is 52' SNL and 361' EWL of NW/4 of SE/4 of Section 23. Ran geophones at 14,930'.**Completed:** D&A 8/1972**Well:** Exploro Corporation No. 2 Masonite Corporation**API well number:** 23-111-00014**Location:** 606' N and 249' E of SW/corner of NW/4 of NW/4 of Section 25-T5N-R10W (map no. 22)**Elevation:** 208' GL (topographic map), 239' DF**Total depth:** 1,863'**Reported formation tops:** (drillers log)

cap rock?	725'
cap rock	1,832'
anhydrite	1,842'

Geophysical logs:**Comments:** Sulphur test, salt not reached. The drillers log has sandy limestone and calcite or limestone and calcite from 725'-56', but predominantly shale from 756'-1,832'. "Top of the anhydrite is evident on the electric log." (Mellen)**Completed:** D&A 11/1944**Well:** Exploro Corporation No. 10 Masonite Corporation**API well number:** 23-111-00022**Location:** 515' E and 388' S of NW/corner of SW/4 of NE/4 of Section 26-T5N-R10W (map no. 23)**Elevation:** 277' DF**Total depth:** 713'**Reported formation tops:** (drillers log)

cap rock	597'
anhydrite	613'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 11/1944**Well:** Minsearch Corporation No. 1 Grafton Rich et al.**API well number:** 23-111-0057**Location:** 100' N and 150' W of SE/corner of NE/4 of SE/4 of Section 26-T5N-R10W (map no. 24)**Elevation:** 238' DF**Total depth:** 872'**Reported formation tops:** (drillers log)

cap rock	763'
anhydrite	772'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 1/1945**Well:** Exploro Corporation No. "B" 3 L. E. Ridgway**API well number:** 23-111-00025**Location:** 660' N and 1,000' W of SE/corner of SW/4 of Section 26-T5N-R10W (map no. 25)**Elevation:** 253' DF**Total depth:** 730'**Reported formation tops:** (drillers log)

cap rock	583'
anhydrite	634'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 11/1944**Well:** Exploro Corporation No. "B" 11 L. E. Ridgway**API well number:** 23-111-00027**Location:** 400' W and 200' N of SE/corner of SW/4 of NW/4 of Section 26-T5N-R10W (map no. 26)**Elevation:** 233' DF**Total depth:** 640'**Reported formation tops:** (drillers log)

cap rock	497'
anhydrite	533'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 11/1944**Well:** Exploro Corporation No. "B" 1 L. E. Ridgway**API well number:** 23-111-00023**Location:** 660' S and 660' W of NE/corner of Section 27-T5N-R10W (map no. 27)**Elevation:** 229' DF**Total depth:** 672'**Reported formation tops:** (drillers log)

cap rock	519'
gypsum and anhydrite	541'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 10/1944**Well:** Exploro Corporation No. "B" 5 L. E. Ridgway**API well number:** 23-111-00026**Location:** 2,500' E and 165' S of SW/corner of NW/4 of NW/4 of Section 27-T5N-R10W (map no. 28)**Elevation:** 246' DF**Total depth:** 682'

Reported formation tops: (drillers log)

cap rock 553'
anhydrite 581'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 12/1944**Well:** Minsearch Corporation No. "B" 6 L. E. Ridgway**API well number:** 23-111-00058**Location:** 160' S and 200' E of NW/corner of SW/4 of Section 27-T5N-R10W (map no. 29)**Elevation:** 222' DF**Total depth:** 765'**Reported formation tops:** (drillers log)

cap rock 724'
anhydrite 745'
salt 750'

Geophysical logs:**Comments:** Salt core from 750'-65' analyzed by Morton Salt Company. Sulphur test**Completed:** D&A 12/1944**Well:** Minsearch Corporation No. "B" 7 L. E. Ridgway**API well number:** 23-111-00059**Location:** 400' S and 100' W of NE/corner of SW/4 of SE/4 of Section 27-T5N-R10W (map no. 30)**Elevation:** 235' DF**Total depth:** 702'**Reported formation tops:** (drillers log)

cap rock 532'
anhydrite 600'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 12/1944**Well:** Donald Oil Company No. 1 Donald (Richton)**API well number:** 23-111-00085**Location:** Near center of NW/4 of SW/4 of Section 28-T5N-R10W (map no. 31)**Elevation:** 160' (?) (scout ticket), 157' GL (topographic map)**Total depth:** 3,100'**Reported formation tops:** (scout ticket)

V. (Vicksburg?) 642'?'
W. (Wilcox?) 2,148'?

Geophysical logs: Drilled prior to introduction of geophysical logging in this country.**Comments:** Very little information available; drilling in 2/1924.**Completed:** D&A 1924**Well:** Gulf Refining Company No. 1 B. M. Stevens Company**API well number:** 23-111-00032**Location:** 660' S and 660' E of NW/corner of SE/4 of NW/4 of Section 28-T5N-R10W (map no. 32)**Elevation:** 187' DF**Total depth:** 8,874'**Reported Formation tops:** (scout ticket)

Heterostegina 647'

Vicksburg 988' (?)
base Vicksburg 1,117'
Ocala 1,228'-84'
Camerina 1,519'
Winona 1,950'
Tallahatta 2,040'
Wilcox 2,194' (core)
Midway 5,194'
chalk 5,288'-6,683'
Tuscaloosa 7,053'
marine Tuscaloosa 7,885'
massive sand 8,360'
Lower Cretaceous 8,649'

Geophysical logs: Schlumberger Composite Log 60'-8,872'**Comments:** Cored 2,100'-405' (32 cores), 6,782'-941' (16 cores), 6,941'-7,011' (7 cores), 7,065'-92' (3 cores), 8,100'-47' (5 cores), and 8,345'-417' (8 cores); took 16 sidewall cores 7,313'-8,622'; all cores reported no show.**Completed:** D&A 12/1945**Well:** Exploro Corporation No. "B" 2 L. E. Ridgway**API well number:** 23-111-00024**Location:** 1,000' E and 400' S of NW/corner of Section 34-T5N-R10W (map no. 33)**Elevation:** 217' DF**Total depth:** 899'**Reported formation tops:** (drillers log)

cap rock 778'
anhydrite 796'

Geophysical logs:**Comments:** Sulphur test, salt not reached.**Completed:** D&A 10/1944**Well:** Fina Oil & Chemical Company No. 1 Ridgeway 34-3**API well number:** 23-111-20107**Location:** 330' S and 1,650' E of NW/corner of Section 34-T5N-R10W (map no. 48)**Elevation:** 233' GL**Total depth:** 10,600'**Reported formation tops:****Geophysical logs:** Dual Laterolog Long Spaced Sonic over unknown interval**Comments:** Unable to recover fish. Directionally drilled, intended to drill through salt overhang. According to the Mississippi State Oil and Gas Board well file, the well was still in salt at 9,200'. Prior to drilling, the anticipated bottom of the overhang was 6,255'.**Completed:** D&A 5/1994**Well:** Fina Oil & Chemical Company No. 1 Ridgeway 34-4**API well number:** 23-111-20109**Location:** 506' S and 400' E of NW/corner of Section 34-T5N-R10W (map no. 49)**Elevation:** 188' GL (topographic map)**Total depth:** proposed 9,500'**Reported formation tops:****Geophysical logs:****Comments:** New permit 8/1/1994**Completed:**

Well: Minsearch Corporation No. "B" 8 L. E. Ridgway
API well number: 23-111-00060
Location: 260' S and 100' W of NE/corner of SW/4 of NE/4 of Section 34-T5N-R10W (map no. 34)
Elevation: 217' DF
Total depth: 779'
Reported formation tops: (drillers log)
 cap rock 705'
 anhydrite 751'
 salt 758'
Geophysical logs:
Comments: Salt core from 758'-779' analyzed by Morton Salt Company. Sulphur test
Completed: D&A 12/1944

Well: Minsearch Corporation No. "B" 9 L. E. Ridgway
API well number: 23-111-00061
Location: 200' E and 200' S of NW/corner of NE/4 of SW/4 of Section 34-T5N-R10W (map no. 35)
Elevation: 243' DF
Total depth: 2,601'
Reported formation tops:
Geophysical logs:
Comments: No domal material reported; in shale at total depth. Sulphur test
Completed: D&A 12/1944

Well: Minsearch Corporation No. 1 J. T. Smith
API well number: 23-111-00064
Location: 100' W of SE/corner of NW/4 of SE/4 of Section 34-T5N-R10W (map no. 36)
Elevation: 285' DF
Total depth: 1,050'
Reported formation tops: (drillers log)
 cap rock(?) 924'
 anhydrite 950'
Geophysical logs:
Comments: Sulphur test, salt not reached.
Completed: D&A 2/1945

Well: Minsearch Corporation No. "B" 10 L. E. Ridgway
API well number: 23-111-00062
Location: 500' S and 100' W of NE/corner of SW/4 of NW/4 of Section 35-T5N-R10W (map no. 37)
Elevation: 242' DF
Total depth: 717'
Reported formation tops: (drillers log)
 cap rock 582'
 anhydrite 619'
Geophysical logs:
Comments: Sulphur test, salt not reached.
Completed: D&A 12/1944

Well: Minsearch Corporation No. 1 Eliza Backstrom
API well number: 23-111-00048
Location: 520' S and 100' W of NE/corner of NE/4 of SW/4 of Section 36-T5N-R10W (map no. 38)
Elevation: 217' DF

Total depth: 3,000'
Reported formation tops:
Geophysical logs:
Comments: No domal material encountered; in shale with streaks of lime and pyrite at total depth. "No tops on log" (Mellen). Sulphur test
Completed: D&A 1/1945

Well: Minsearch Corporation No. 2 Eliza Backstrom
API well number: 23-111-00049
Location: 100' N and 100' E of SW/corner of NW/4 of SW/4 of Section 36-T5N-R10W (map no. 39)
Elevation: 247' DF
Total depth: 722'
Reported formation tops: (drillers log)
 cap rock 618'
 anhydrite 643'
Geophysical logs:
Comments: Sulphur test, salt not reached.
Completed: D&A 2/1945

Well: Minsearch Corporation No. 1 J. B. Cantrell Estate
API well number: 23-111-00051
Location: 245' N and 55' E of SW/corner of NW/4 of NW/4 of Section 36-T5N-R10W (map no. 40)
Elevation: 262' DF
Total depth: 935'
Reported formation tops: (scout ticket, Mississippi State Oil and Gas Board well file)
 cap rock 826'
 anhydrite 832'
Geophysical logs:
Comments: Sulphur test, salt not reached.
Completed: D&A 1/1945

The National Waste Terminal Storage (NWTS) program of the U. S. Department of Energy (DOE) is responsible for providing safe, environmentally sound, permanent disposal of high-level nuclear waste. The primary methods investigated for this program involved placing these wastes in deep, stable geologic formations. The salt domes of the Texas, Louisiana and Mississippi Gulf Coast were one of several formations studied. Eight salt domes in these states were selected for further study as possible repository locations. The following wells were drilled and tested as part of this characterization study. The work was done by Law Engineering Testing Company under subcontract to Battelle Memorial Institute, the lead NWTS contractor for the DOE.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MRIG-9
 DOE/Masonite (L.R.F.P.)
API well number: 23-111-20049
Location: 2,000' FWL and 1,017' FNL of Section 26-T5N-R10W (map no. 41)
Elevation: 257' GL (well report), 256' GL (log heading)
Total depth: 1,275'
Reported formation tops: (MRIG-9, well completion report)

Hattiesburg	0
cap rock	554'
salt	767'

Geophysical logs: (MRIG-9) Dresser Atlas Dual Induction Focused Log 50'-570', Laterolog 558'-1,272', Acoustilog 50'-1,268', Temperature and Differential Temperature 0-1,273', Compensated Density and Compensated Neutron 50'-1,272'. These logs also included gamma ray, caliper and spontaneous potential curves. The U. S. G. S. and Law Engineering also ran resistivity, temperature, differential temperature, pulse temperature, caliper and electric logs. For the MRIG-9WS borehole, Law Engineering ran resistivity and spontaneous potential logs from 20'-400', and a gamma ray log from 0-400'.

Comments: This site consists of two wells, the MRIG-9 and the MRIG-9WS. The data given are for the MRIG-9, the deeper of these wells. The shallower of the two wells, the MRIG-9WS, was drilled to 402' as a water supply well. Both wells were used for long term aquifer testing. Complete geophysical log suites were run on both wells. Data gathered from these wells were used as input to the hydrology section of the Geologic Characterization Reports, Volume VI, Mississippi study area for the National Waste Terminal Storage program. The MRIG-9 was cored from 454.0'-1,275.43' and 38 sidewall cores were taken from 122'-761'. The exact surface location of MRIG-9WS is uncertain, but is approximately 120' W and 20' N of the MRIG-9.

Completed: Drilling, logging and deeper aquifer testing below 766' were completed by 12/1979.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MRIG-10 DOE Masonite (L.R.F.P.)

API well number: 23-111-20050

Location: 610' FNL and 1,867' FWL of Section 12-T5N-R10W (map no. 42)

Elevation: 285' GL, 290' DF, 291' KB

Total depth: 2,714'

Reported formation tops: (MRIG-10, well report)

"Citronelle"	0
Hattiesburg and Catahoula formations undifferentiated	150'
Heterostegina zone	830'
lower Catahoula	950'
Chickasawhay	1,126'
Bucatanna	1,230'
Vicksburg	1,306'
Red Bluff	1,404'
Yazoo	1,455'
Pachuta Marl	1,560'
North Twistwood Creek Clay	1,590'
Moodys Branch	1,616'
Cockfield	1,634'
Cook Mountain	1,858'
Sparta	1,970'
Zilpha	2,188'

Winona	2,325'
Tallahatta	2,387'
Wilcox	2,610'

Geophysical logs: (MRIG-10) Dresser Atlas Dual Induction Focused Log 61'-2,714', Acoustilog 61'-2,706', Temperature and Differential Temperature 0-2,713', Compensated Densilog and Compensated Neutron 61'-2,714'. These logs also included gamma ray, caliper and spontaneous potential curves. Law Engineering also ran temperature, differential temperature, and caliper logs. For the MRIG-10WS borehole, Law Engineering ran resistivity and spontaneous potential logs from 42'-402', and a caliper log from 240'-291'.

Comments: This site consists of two wells, the MRIG-10 and the MRIG-10WS. The data given are for the deeper of these wells. The shallower of the two wells, the MRIG-10WS, was drilled to 402' as a water supply well. Both wells were used for aquifer testing and long term water level monitoring. Data gathered from these wells were used as input to the hydrology section of the Geologic Characterization Reports, Volume VI, Mississippi study area for the National Waste Terminal Storage program. Twenty-five sidewall cores were taken from 581'-2,680' in the MRIG-10. The exact location of the MRIG-10WS is uncertain, but is approximately 1,100' W and 500' N of the MRIG-10.

Completed: Drilling, logging, and casing was set in both wells by 10/1979.

The following five wells were all drilled from the same surface site.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MRIH-11A (Travis)

API well number: 23-111-20045

Location: 2,602' SNL and 1,128' WEL of Section 9-T4N-R10W (map no. 43)

Elevation: 180' GL (log was measured from ground level), 190' DF, 191' KB

Total depth: 6,040'

Reported formation tops: (well completion report)

Hattiesburg and Catahoula	0
Heterostegina zone	700'
lower Catahoula Formation	780'(?)
Chickasawhay Fm.	980'
Bucatanna	1,097'
Vicksburg	1,140'
Red Bluff Fm.	1,201'
Yazoo	1,243'
Pachuta	1,297'
North Twistwood Creek	1,358'
Moodys Branch	1,378'
Cockfield	1,393'
Cook Mountain	1,558'
Sparta	1,670'
Zilpha	1,834'
Winona	1,960'
Tallahatta	2,000'

Wilcox	2,225'
Midway	4,720'
Clayton	5,498'
Selma chalk	5,521'

Geophysical logs: Dresser Atlas Dual Induction Focused Log 60'-6,040', Compensated Density and Compensated Neutron 60'-6,037', Temperature and Differential Temperature 0-6,040', Acoustilog 60'-6,030'. Gamma ray and caliper logs were included with these logs. The U. S. G. S. also ran spontaneous potential and resistivity logs from 50'-796'.

Comments: All five wells at the MRIH-11 site were used for aquifer testing and long term water level monitoring. Data gathered from these wells were used as input to the hydrologic section of the Geologic Characterization Reports, Volume VI, Mississippi study area for the National Waste Terminal Storage program (nuclear waste) of the Department of Energy. Fifty sidewall cores were taken in the MRIH-11A from 835'-5,868'.

Completed: 10/1979, except for long term water level monitoring.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MRIH-11B (Travis)

API well number: 23-111-20046

Location: 2,390' SNL and 950' WEL of Section 9-T4N-R10W (map no. 44)

Elevation: 183' GL-location plat (log was measured from ground level); the well report shows the following elevations: 184' GL, 194' DF, 195' KB

Total depth: 2,565'

Reported formation tops: None

Geophysical logs: Dresser Atlas Dual Induction Focused Log 54'-2,523', caliper and gamma ray logs were included from 54'-2,523'. Law Engineering also ran a caliper log from 2,450'-2,560'.

Comments: See the MRIH-11A general comments. No cores were taken in the MRIH-11B.

Completed: 10/1979, except for long term water level monitoring.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MRIH-11C (Travis)

API well number: 23-111-20047

Location: 2,460' SNL and 1,010' WEL of Section 9-T4N-R10W (map no. 45)

Elevation: 182' GL (the log was measured from ground level), 190' DF, 191' KB

Total depth: 1,620'

Reported formation tops: None

Geophysical logs: Dresser Atlas Dual Induction Focused Log including gamma ray and caliper logs 61'-1,577'. Law Engineering caliper log 1,510'-1,615'.

Comments: See the MRIH-11A general comments. No cores were taken in the MRIH-11C.

Completed: 11/1979, except for long term water level monitoring.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MRIH-11D (Travis)

API well number: 23-111-20048

Location: 2,450' SNL and 1,070' WEL of Section 9-T4N-R10W (map no. 46)

Elevation: 184' GL (location plat), 183' GL (log heading and well report) (log measured from ground level), 187.7' DF, 188.2' KB

Total depth: 940'

Reported formation tops: None

Geophysical logs: Dresser Atlas Dual Induction Focused Log including caliper and gamma ray logs 58'-908'. Law Engineering caliper log 830'-930'; and temperature and differential temperature logs 0-848'.

Comments: See the MRIH-11A general comments. No cores were taken in the MRIH-11D.

Completed: 10/1979, except for long term water level monitoring.

Well: Stone & Webster Engineering Corporation (Law Engineering Testing Company) Site/No. MRIH-11WS (Travis)

API well number: None

Location: approximately 2,375' FNL and 835' WEL of Section 9-T4N-R10W, or 110' N30°E of MRIH-11B (map no. 47)

Elevation: 188' GL (log measured from ground level)

Total depth: 400'

Reported formation tops: None

Geophysical logs: Law Engineering gamma ray, caliper, and resistivity logs 5'-393', spontaneous potential 5'-320'. U. S. G. S. gamma ray 6'-170'.

Comments: See the MRIH-11A general comments. The MRIH-11WS was drilled primarily as a water supply well. No cores were taken in the MRIH-11WS.

Completed: 7/1979, except for long term water level monitoring.

"Thirty-five shallow borings were drilled in the vicinity of Richton Salt Dome during area studies of the NWTS program. Twenty-five "series 200" borings were drilled from October to December 1979, and ten "series 300" borings were drilled from February to May 1980. Natural Gamma ray, single point resistance, short and long normal resistivity, neutron, density and spontaneous potential logs were run on these borings" (Law Engineering Testing Company, 1982, ONWI-167). The "series 200" borings were from 75'-200' deep, and the "series 300" borings were from 360'-551' deep. The "series 300" borings were drilled to a depth of about 500' or to the top of cap rock. Data tables for the "series 200" and "series 300" borings are included as Table 2; the information is from Law Engineering Testing Company, 1982, ONWI-167. These shallow borings are not shown on the maps.

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Table 2

Summary of data for
200 & 300 series shallow borings
at the Richton Dome

From Law Engineering Testing Company, 1982, ONWI-167

Boring No.	Location	Owner	Contractor	Date Boring Began Completed	Ground Level Elevation (feet, MSL)	Total Depth of Hole (feet)	Hole Diameter (inches)	Geophysical logs
MRIG-201	41.2' FSL 2565.3' FWL Sec 22 T5N R10W	Masonite Corp.	Pope Testing	12/12/79 12/15/79	244.1	80.5	3	Gamma Resistivity Caliper
MRIG-202	480.9' FSL 3258.5' FEL Sec 26 T5N R10W	Masonite Corp.	Pope Testing	10/16/79 10/19/79	281.5	200.1	6 1/2	Gamma Resistivity SP Caliper Neutron
MRIG-203	3429.9' FNL 1435.7' FWL Sec 23 T5N R10W	Masonite Corp.	Pope Testing	10/8/79 10/10/79	211.1	120.5	5 7/8	Gamma Resistivity SP Caliper Neutron
MRIG-204	474.9' FNL 194.8' FEL Sec 22 T5N R10W	Masonite Corp.	Pope Testing	11/27/79 11/30/79	275.1	180.5	6	Resistivity SP Gamma Neutron
MRIG-205	1017.2 FNL 545' FWL Sec 22 T5N R10W	Masonite Corp.	Pope Testing	12/10/79 12/11/79	222.4	140.5	6	Resistivity SP Gamma Neutron
MRIG-208	1215.1' FNL 1169' FWL Sec 24 T5N R10W	Masonite Corp.	Pope Testing	12/2/79 12/4/79	223.4	75.5	5 7/8	Gamma Resistivity Neutron
MRIG-209	415' FNL 675' FEL Sec 23 T5N R10W	Masonite Corp.	Pope Testing	12/7/79 12/9/79	240.6	80.5	6	Gamma Resistivity SP Neutron
MRIG-210	1734.4' FNL 1659.6' FWL Sec 36 T5N R10W	Hillman	Pope Testing	10/20/79 10/23/79	245.1	180.5	6	Gamma Neutron

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MRIG-211	757.1' FSL 2074.2' FWL Sec 25 T5N R10W	McCardle	Pope Testing	11/1/79 11/6/79	229.8	142.0	6	Gamma Neutron Resistivity SP Caliper
MRIG-212	848.8' FNL 933.1' FEL Sec 35 T5N R10W	Valentine	Pope Testing	10/19/79 11/7/79	280.5	180.5	6	Gamma Resistivity SP Neutron Caliper
MRIG-213	28.3' FSL 646' FEL Sec 36 T5N R10W	McLendon	Pope Testing	11/12/79 11/13/79	178.3	100.5	5 7/8	Resistivity SP Gamma Caliper Neutron
MRIG-215	656.7' FNL 688.1' FWL Sec 1 T4N R10W	Hillman	Pope Testing	11/16/79 11/17/79	220.2	120.5	6	Resistivity SP Gamma Caliper Neutron
MRIG-216	2486' FSL 50' FWL Sec 1 T4N R10W	McLendon	Pope Testing	11/14/79 11/15/79	218.5	120.5	6	Resistivity SP Gamma Neutron Caliper
MRIG-217	1708.9' FNL 1688.4' FWL Sec 11 T4N R10W	Godfrey	Pope Testing	12/4/79 12/6/79	269.0	179.6	6	Caliper Gamma Neutron
MRIG-219	2010.5' FSL 2228.4' FEL Sec 27 T5N R10W	Hillman	Pope Testing	11/19/79 11/21/79	239.7	140.9	6	Caliper Gamma Neutron Resistivity SP
MRIG-220	1170.9' FSL 774.6' FEL Sec 1 T4N R10W	Oliphant	Pope Testing	11/3/79 11/5/79	215.7	120.5	6	Caliper Gamma Neutron Resistivity SP
MRIG-222	730.5' FSL 110.3' FEL Sec 35 T5N R10W	Oliphant	Pope Testing	11/19/79 11/20/79	209.4	124.0	8" (0-61') 5 7/8" (61'- 124')	Caliper Gamma Neutron Resistivity SP
MRIG-223	105' FNL 558.3' FWL Sec 2 T4N R10W	Oliphant	Pope Testing	11/28/79 11/30/79	265.5	160.5	8" (0-130') 5 7/8" (130'- 160)	Resistivity SP Gamma Neutron Caliper

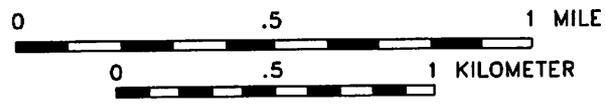
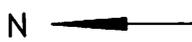
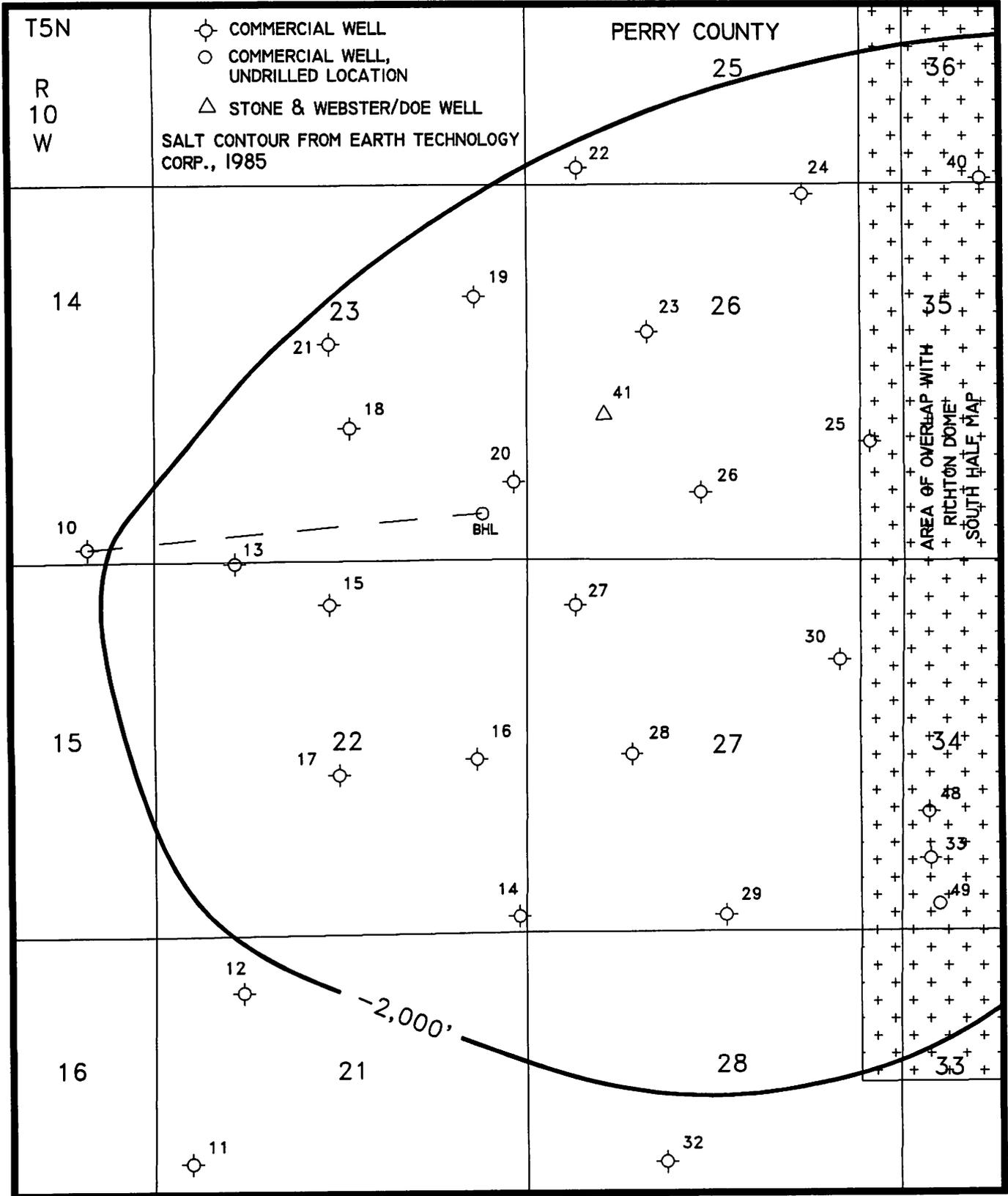
SHALLOW MISSISSIPPI SALT DOMES: RICHTON

267

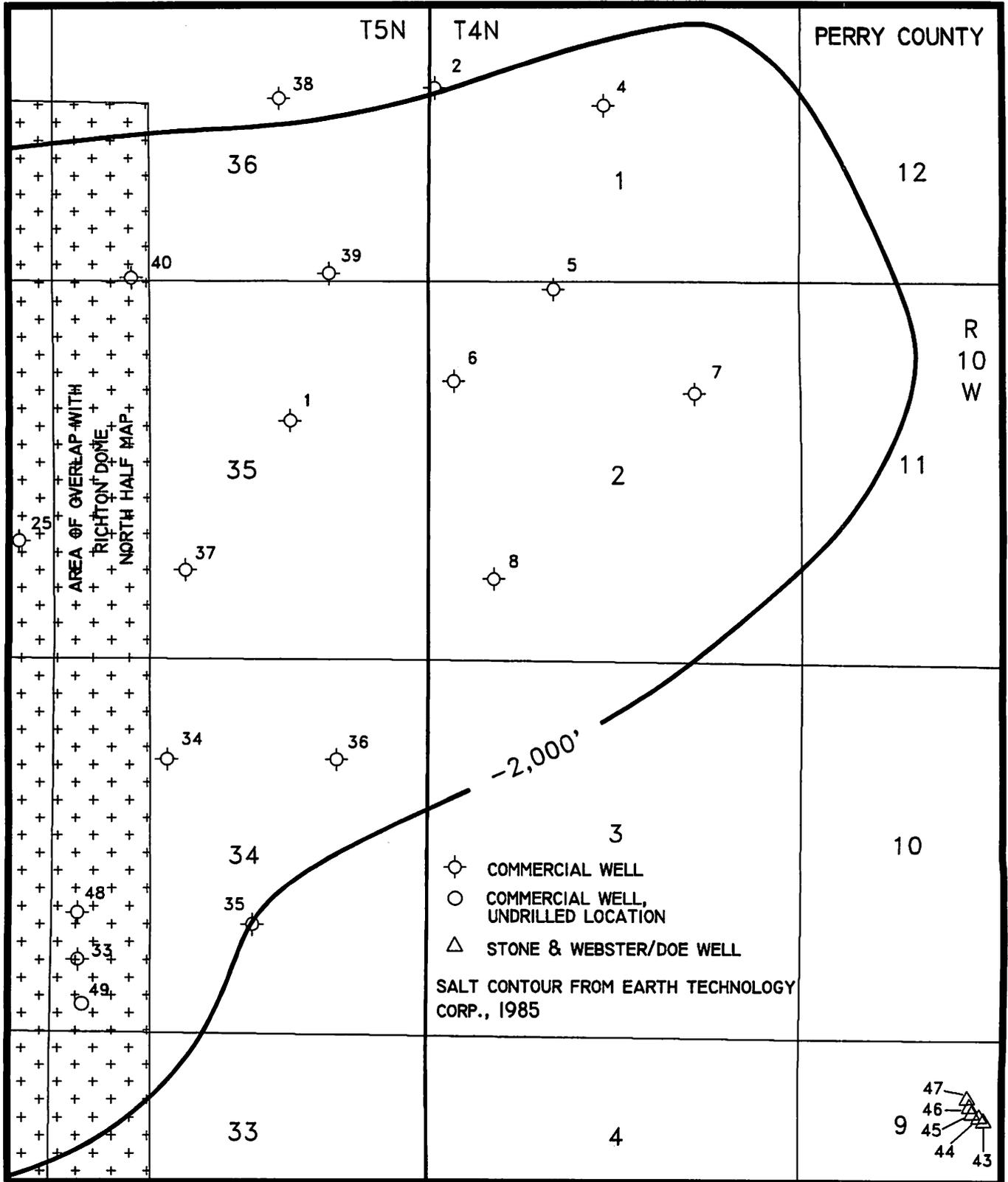
MRIG-224	1925.7' FNL 2036.8' FEL Sec 3 T4N R10W	Oilphant	Pope Testing	12/10/79 12/11/79	261.8	130.0	8	Caliper Gamma Neutron Resistivity SP
MRIG-226	60.7' FSL 974.7' FWL Sec 26 T5N R10W	Hillman	Pope Testing	10/23/79 10/24/79	262.6	160.5	6	Gamma Neutron
MRIG-227	425.1' FNL 2739.8' FWL Sec 34 T5N R10W	Hillman	Pope Testing	11/16/79 11/18/79	237.3	140.5	6	Caliper Gamma Neutron Resistivity SP
MRIG-228	695.5' FNL 4551.8' FWL Sec 33 T5N R10W	Ridgway	Pope Testing	10/4/79 10/6/79	185.1	120.3	5 7/8	SP Resistivity Caliper Gamma Neutron
MRIG-229	1341.3' FNL 1360.5' FEL Sec 32 T5N R10W	Beasley	Pope Testing	10/6/79 10/8/79	144.7	99.5	5 7/8	Caliper Gamma Neutron SP Resistivity
MRIG-230	181' FSL 2805' FWL Sec 34 T5N R10W	Smith	Pope Testing	12/2/79 12/3/79	257.8	159.5	8* (0-135') 5 7/8* (135'- 159.5')	Gamma Neutron Resistivity
MRIG-232	2173.5' FSL 1173.9' FWL Sec 4 T4N R10W	Masonite	Pope Testing	11/30/79 12/2/79	223.5	120.5	6	Resistivity SP Gamma Neutron
MRIG-301	2094' FNL 514.6' FEL Sec 14 T5N R10W	Masonite	Pope Testing	2/16/80 2/25/80	272.3	500.0	4	SP Resistivity Acoustic- Velocity Gamma Resistance Neutron
MRIG-302	1881.3' FNL 546.1' FWL Sec 23 T5N R10W	Masonite	Pope Testing	3/1/80 3/5/80	254.7	500.0	6	SP Resistivity Caliper Density Gamma Resistance Neutron Caliper Gamma
MRIG-303	508.3' FSL 875.7' FEL Sec 27 T5N R10W	Hillman	Pope Testing	2/26/80 2/29/80	231.0	491.0	6	Caliper Density SP Resistivity Gamma Resistance Neutron

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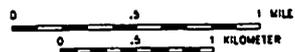
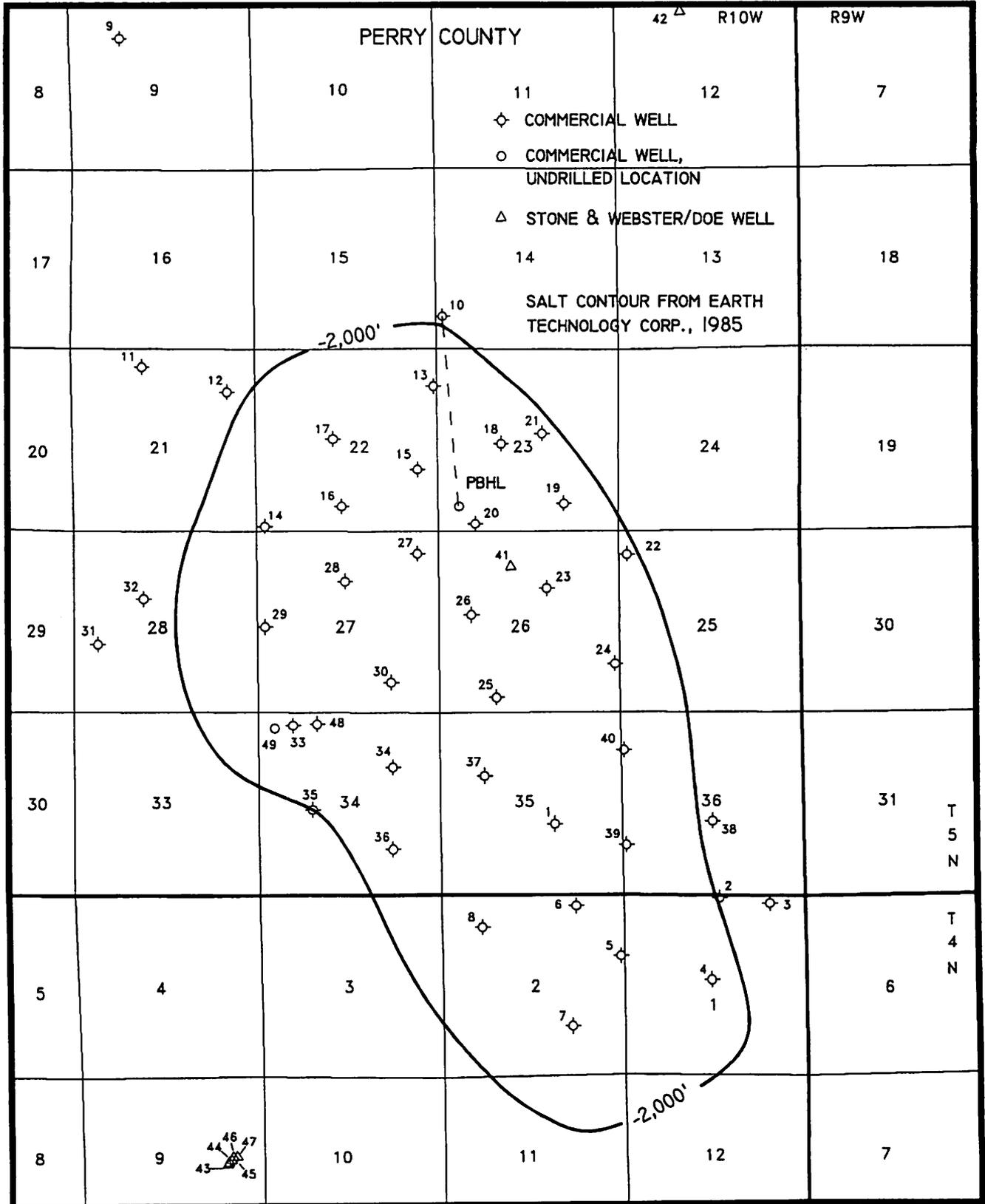
MRIG-304	1196.6' FNL 2437.9' FWL Sec 34 T5N R10W	Hillman	Pope Testing	3/10/80 3/11/80	236.8	500	6	Caliper Density SP Resistivity Gamma Resistance Neutron
MRIG-305	391.8' FSL 156' FWL Sec 3 T4N R10W	McSwain	Pope Testing	3/13/80 3/19/80	230.5	550.9	6	SP Resistivity Gamma Caliper Resistance Neutron
MRIG-306	148' FNL 1654.1' FWL Sec 2 T4N R10W	Clearman	Pope Testing	3/14/80 3/26/80	226.2	490.0	6	Caliper Density Gamma Resistance Neutron SP Resistivity
MRIG-307	1325.9' FSL 760.4' FEL Sec 35 T5N R10W	Hillman	Pope Testing	3/30/80 4/10/80	213.6	533.50	6	Gamma Caliper Resistance Neutron Caliper Density Differential Temp. SP Resistivity
MRIG-308	1768.6' FNL 1676' FWL Sec 36 T5N R10W	Hillman	Pope Testing	3/24/80 3/29/80	245.5	500.00	6	Caliper Density SP Resistivity Gamma Caliper Resistance Neutron
MRIG-309	296.6 FSL 1654.4' FWL Sec 34 T5N R10W	Ridgway	Pope Testing	5/10/80 5/12/80	250.6	360.0	5 7/8	Gamma Resistance Neutron Caliper Density SP Resistivity
MRIG-310	435.7' FNL 3067.8' FWL Sec 34 T5N R10W	Hillman	Pope Testing	5/14/80 5/15/80	237.5	400.0	5 7/8	SP Resistivity Gamma Caliper Resistance Neutron Caliper Density



RICHTON DOME
NORTH HALF
FIGURE 125

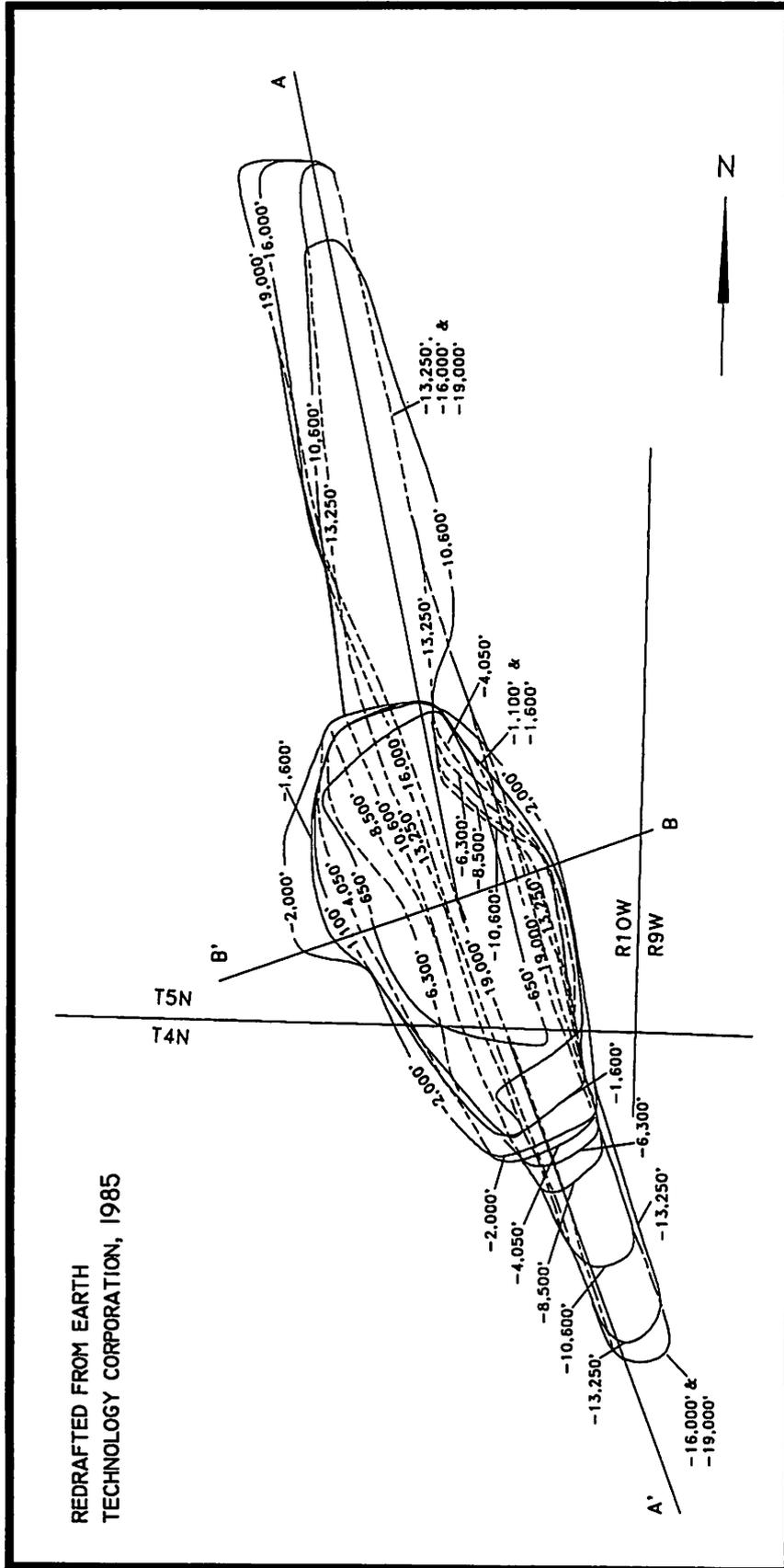


RICHTON DOME
 SOUTH HALF
 FIGURE 126



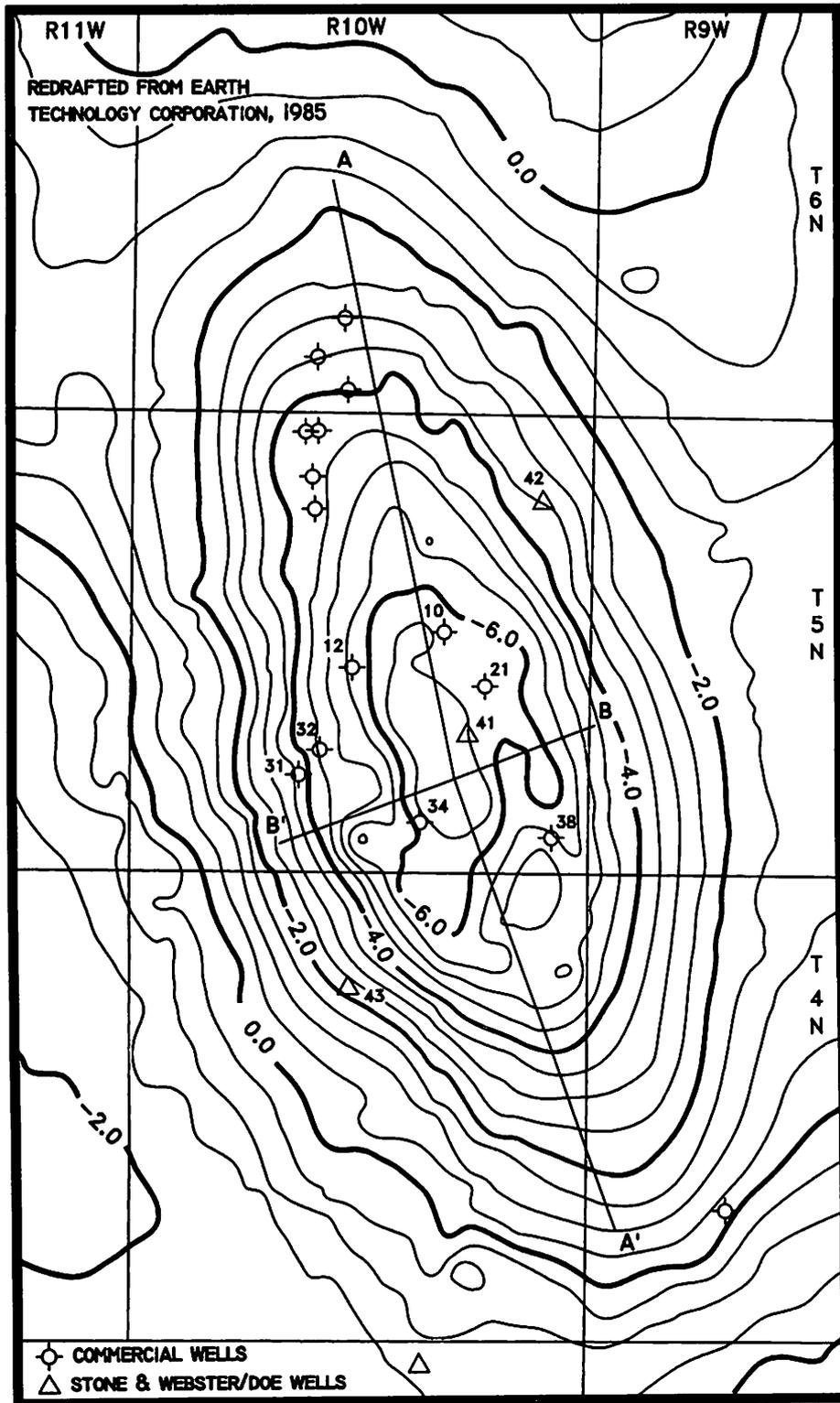
RICHTON DOME

FIGURE 127



RICHTON DOME
STRUCTURE CONTOURS
TOP OF SALT MODEL

FIGURE 128

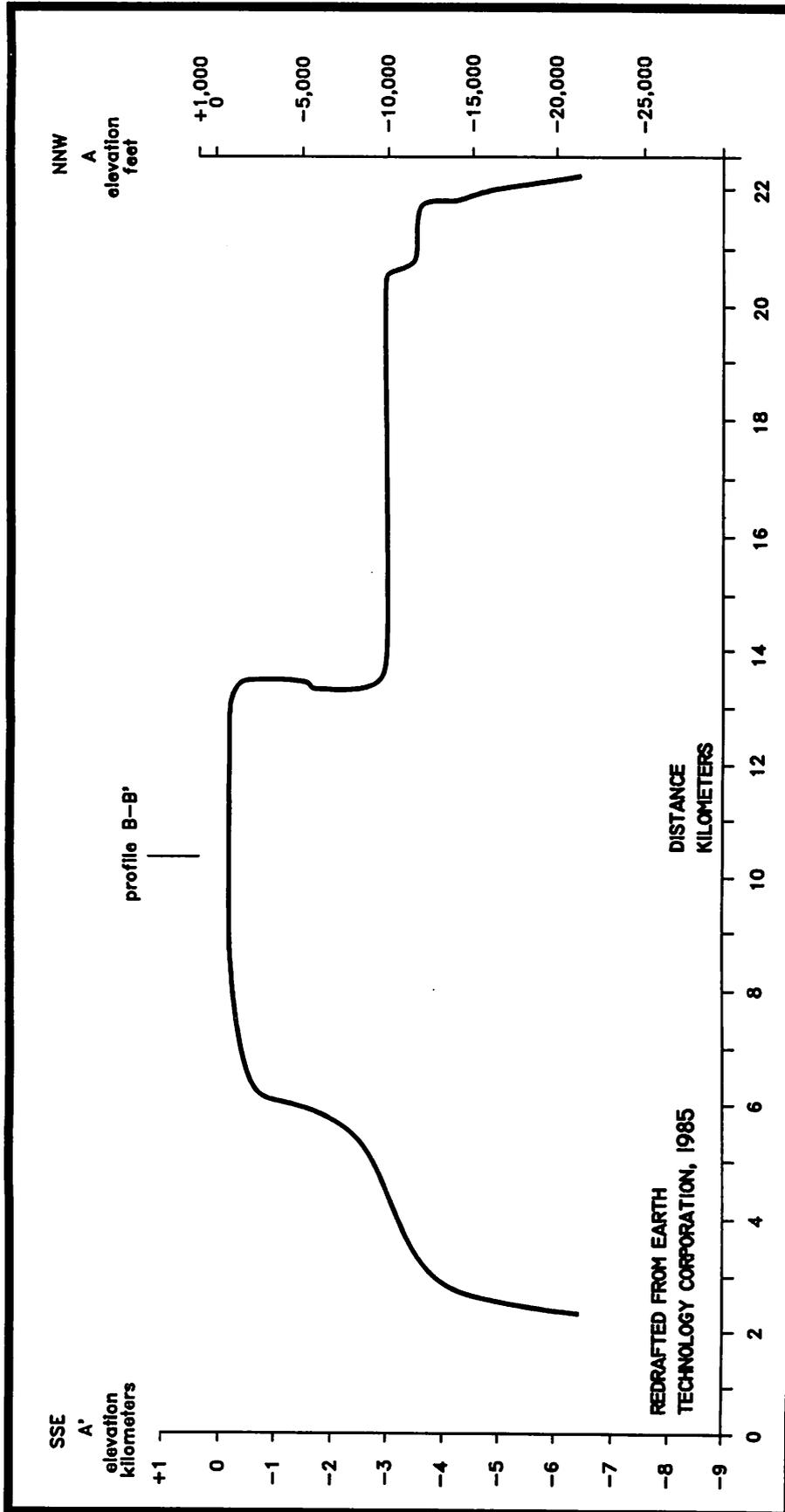


0 2 4 KILOMETERS

0 2 4 MILES

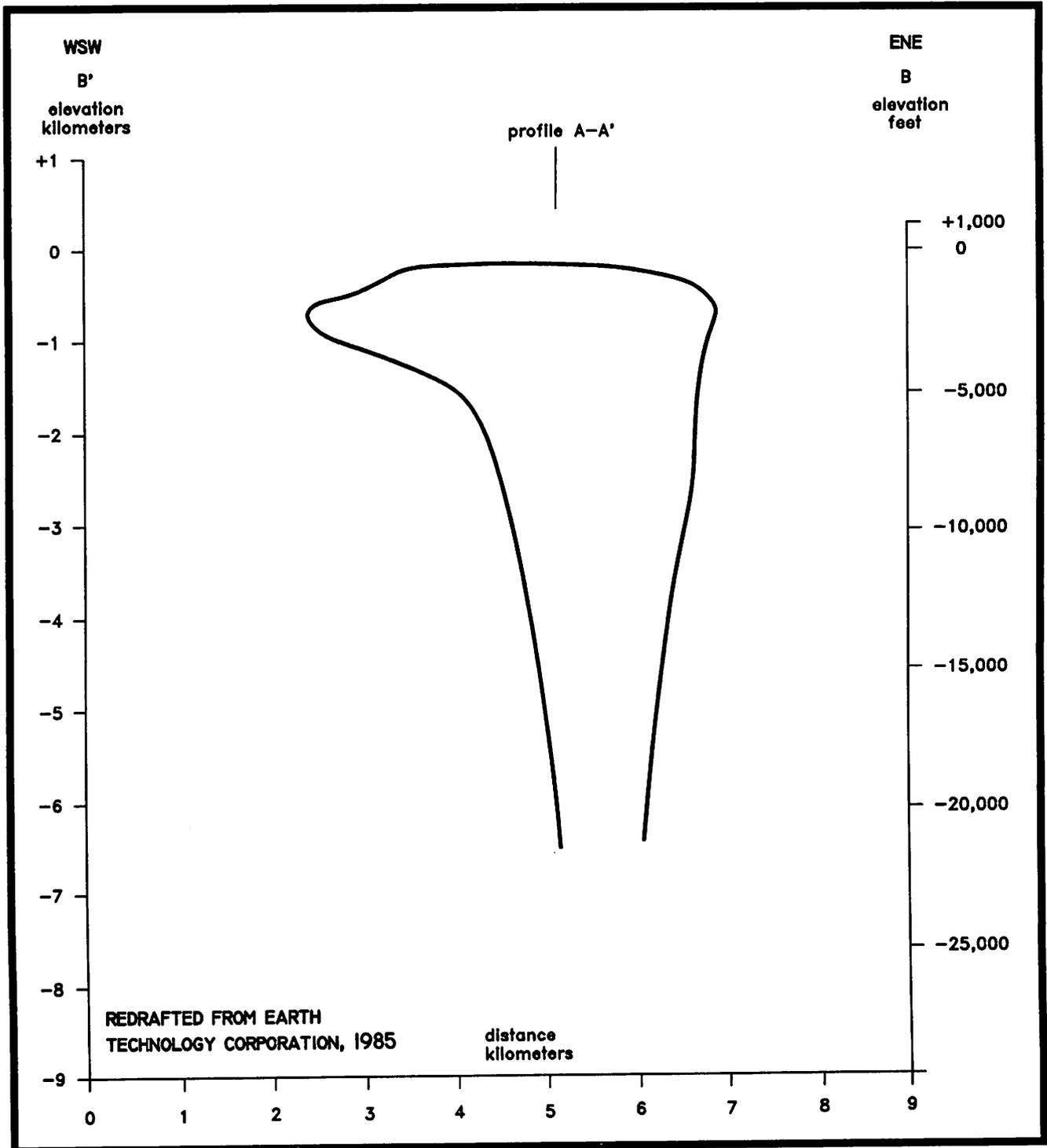
AREA OF RESIDUAL USED FOR MODELING, RICHTON DOME PERRY COUNTY, MISSISSIPPI

FIGURE 129



RICHTON DOME
SALT MODEL CROSS SECTION
PROFILE A-A'

FIGURE 130



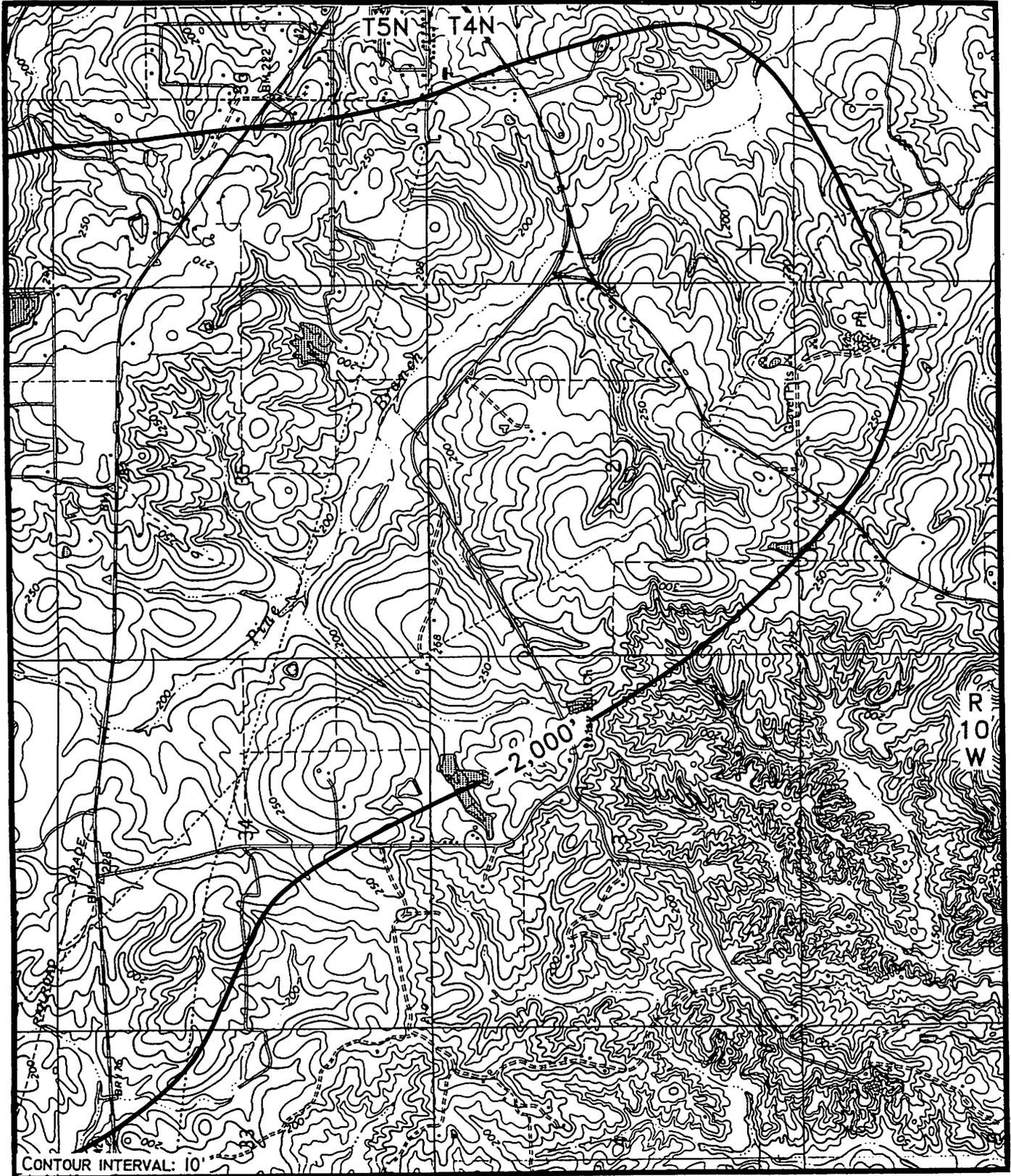
RICHTON DOME
SALT MODEL CROSS SECTION
PROFILE B-B'

FIGURE 131



RICHTON DOME
NORTH HALF

FIGURE 132

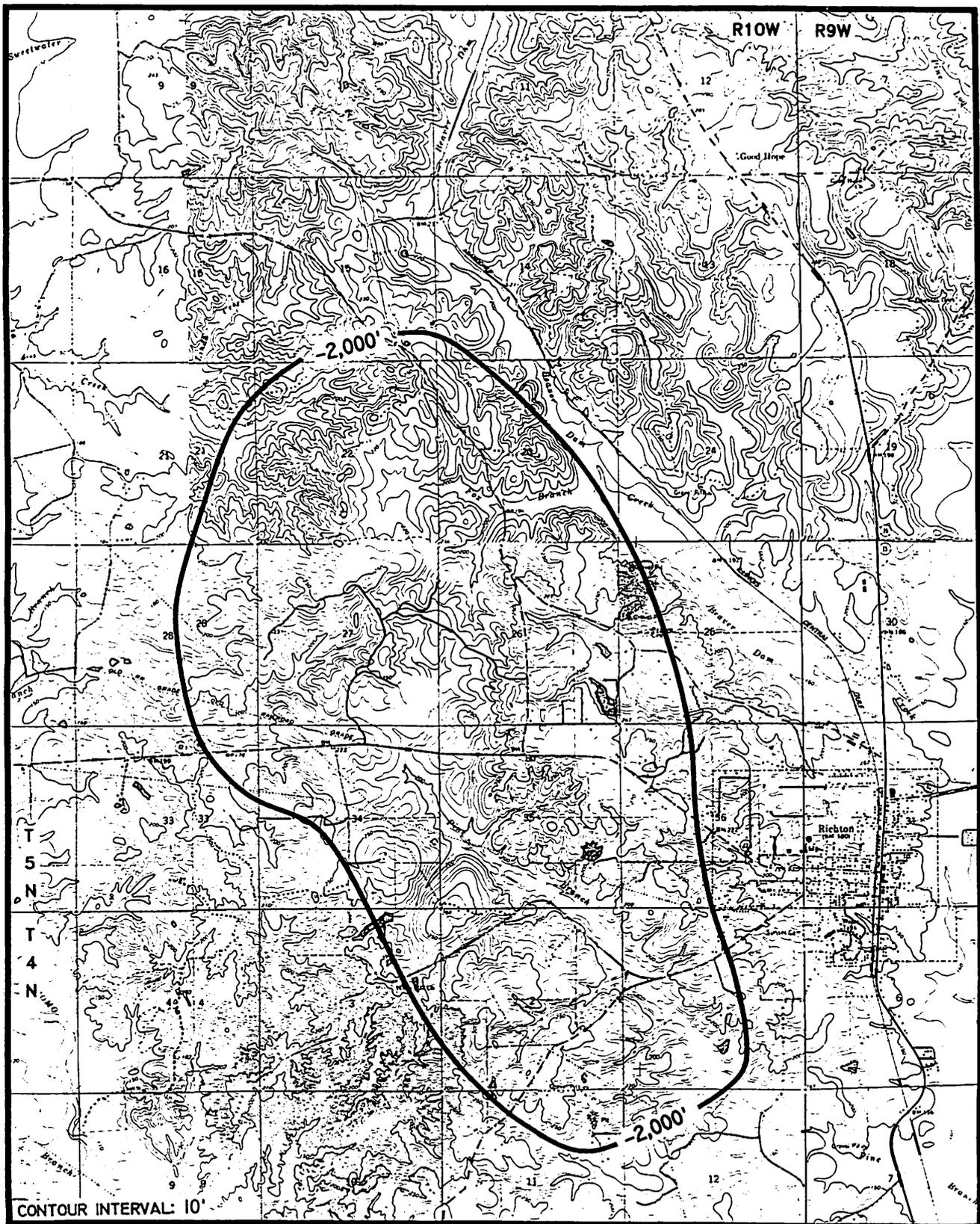


CONTOUR INTERVAL: 10'



RICHTON DOME
SOUTH HALF

FIGURE 133



RICHTON DOME
FIGURE 134

RUTH SALT DOME

GENERAL DATA

Location: Sections 15,16,21,22-T5N-R9E, Lincoln County, Mississippi

USGS topographic map(s): Ruth

Geophysical data: Regional Bouguer gravity shows a large minimum, covering approximately a 1.5 township area, with over 20 milligals relief. There is a cap rock maximum in the center approximately 1 mile in diameter.

Estimated size and shape: Oval, 1 mile NE-SW, 2 miles NW-SE.

Estimated base fresh water (10,000 ppm): -2,200'

Economic Use: Oil production at Calcote Field on north flank of dome.

Shallowest known cap rock: 2,212' (Freeport Sulphur Company No. 2 C. C. Clark)

Shallowest known salt: Not reached on crest, 9,352' on flank (Florida Gas Exploration Company No. 1 R. J. Burnette et al.)

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Mobil Exploration Company, Inc. No. 1 K. D. Kyzar)

Nearest oil or gas production: Immediate north flank of dome, Lower Cretaceous Ferry Lake anhydrite at Calcote Field.

DRILLING HISTORY

Discovery well: Freeport Sulphur Company No. 2 C. C. Clark

API well number: 23-085-00254

Location: 824' N and 1,194' E of SW/corner of Section 15-T5N-R9E (this location is from the Mississippi State Oil and Gas Board well file completion report; the location is also given as 920' N and 1,250' E of SW/corner of Section 15 on some reports).

Elevation: 465' GL? (Mississippi State Oil and Gas Board well file completion report), 483' GL (topographic map), 482' DF (scout ticket)

Total depth: 2,710'

Reported formation tops: (drillers log)

cap rock	2,212'
anhydrite	2,676'

Geophysical logs: Schlumberger 96'-2,266'

Comments: Cored 2,232'-37', recovered cap rock with small amount asphalt. Sulphur test

Completed: D&A 7/1942

Additional drilling:

Well: Mobil Exploration Company, Inc. No. 1 K. D. Kyzar

API well number: 23-085-20142

Location: 2,415' FNL and 935' FEL of Section 10-T5N-R9E

Elevation: 409' GL, 429' DF, 431' KB

Total depth: 18,500'

Reported formation tops: (scout ticket)

Eutaw	9,330'
-------	--------

Upper Tuscaloosa	9,570'
------------------	--------

Lower Tuscaloosa	10,570'
------------------	---------

Washita-Fredericksburg	11,606'
------------------------	---------

Paluxy	13,418'
--------	---------

Ferry Lake	15,650'
------------	---------

James	16,701'
-------	---------

Sligo-Hosston	17,050'
---------------	---------

Geophysical logs: Schlumberger Dual Induction-Laterolog Borehole Compensated Sonic 807'-18,494', Compensated Neutron-Formation Density 808'-18,491', dipmeter 8,328'-17,089', Saraband 8,316'-18,470', Microlog 8,314'-18,494', Casing Collar Log and Perforating Record 9,600'-774'.

Comments: Tested perforations 13,445'-60', recovered salt water; 11,555'-65', recovered salt water; 9,778'-90', recovered salt water; 9,602'-497', recovered salt water. Data Log Inc. mudlog 5,000'-18,500'.

Completed: D&A 10/1981

Well: Freeport Sulphur Company No. 1 C. C. Clark

API well number: 23-085-00253

Location: 700' N and 1,439' E of SW corner of Section 15-T5N-R9E

Elevation: 471' (GL? from Mississippi State Oil and Gas Board well file completion report), 479' DF (scout ticket), 485' GL (topographic map)

Total depth: 1,850'

Reported formation tops:

Geophysical logs: Schlumberger electrical log 50'-1,555'

Comments: No domal material encountered. Sulphur test

Completed: D&A 7/1942

Well: Placid Oil Company No. 1 POC-Paramount-Roberts 15-2

API well number: 23-085-20205

Location: 1,500' FEL and 2,390' FSL of Section 15-T5N-R9E

Elevation: 432' GL, 453' DF, 454' KB

Total depth: 17,105'

Reported formation tops: (Southeastern Oil Review)

Midway	6,920'
--------	--------

chalk	7,470'
-------	--------

Eutaw	8,755'
-------	--------

marine Tuscaloosa	9,550'
-------------------	--------

Lower Tuscaloosa	9,870'
------------------	--------

Washita-Fredericksburg	10,255'
------------------------	---------

Paluxy	11,930'
--------	---------

salt dome cap rock	13,530'
--------------------	---------

Mooringsport	14,310'
--------------	---------

Ferry Lake anhydrite	14,745'
Rodessa	15,550'
cap rock	16,470'
salt	16,605'

Geophysical logs: Schlumberger Dual Induction-Gamma Ray-Long Spaced Sonic/Phasor Induction-Digital BHC Sonic 58'-16,600'.

Comments: Completed pumping 112.5 BOPD, 174 MCFG-
PD, 20 BWPD, GOR 1,546:1, 44° gravity from perforations
14,810'-14', 14,850'-54', 14,920'-30', 15,010'-20',
15,029'-34', 15,040'-45', 15,406'-40', and 15,462'-80'.
Discovery well for Calcote Field. The completion was
announced after several months of testing. Diversified Well
Logging, Inc. mudlog from 8,500'-17,110'. Plugged and
abandoned 3/1994.

Completed: 5/1992

Well: California Company No. 1 School Land (Lincoln
County Board of Supervisors) (Lincoln County Lease No. 2)

API well number: 23-085-00159

Location: 610' FNL and 610' FWL of SE/4 of NE/4 of
Section 16-T5N-R9E

Elevation: 445' GL (topographic map), 412' DF (scout tick-
et), 461 E?-L&S (scout ticket)

Total depth: 8,704' original hole, 4,002' second sidetrack
hole

Reported formation tops: (scout ticket, California
Company-original hole)

Jackson	1,920'
Moodys Branch	2,170'
Cockfield	2,185'
Cook Mountain lime.	2,425'
Sparta	2,620'
Cane River	3,040'
Wilcox	3,524'
Midway	5,773'
Clayton	6,425'
Selma	6,450'
1st sand (Eutaw)	7,275'
marine Tuscaloosa	7,825'
massive sand	8,285'
cap rock	8,640'

Geophysical logs: Schlumberger Composite Log 1,638'-
8,695' (original hole)

Comments: Took 21 sidewall cores from 3,700'-4,270', 11
sidewall cores from 4,271'-96', and 15 sidewall cores in
basal Wilcox, all no show. Reported pinpoint oil shows
about 8,500'. Cored 8,701'-04', no recovery. Reported 3
sands between 8,400'-500' with slight oil showing.
Perforated 8,526'-36' and ran a drillstem test recovering gas
cut mud, salt water and slight trace oil. Perforated 8,505'-
18' and ran a drillstem test recovering mud and salt water.
Perforated 8,465'-75' and ran a drillstem test recovering
mud, no show. Perforated 8,461'-80' and ran a drillstem test

recovering mud and sand with a very slight show of gas.
Retested perforations 8,461'-80' recovering mud and salt
water. Set Whipstock and sidetracked at 1,708'. Set second
whipstock at 1,830'.

Completed: D&A 3/1944

Well: Freeport Sulphur Company No. 1 Board of Supervisors
API well number: 23-085-00252

Location: 700' N and 710' W of SE/corner of Section 16-
T5N-R9E (Mississippi State Oil and Gas Board well file);
reported on scout ticket as 710' N and 700' W of SE/corner

Elevation: 460' GL (topographic map), 466' GL(?)
(Mississippi State Oil and Gas Board well file)

Total depth: 2,793'

Reported formation tops: (drillers log)

cap rock	2,445'
anhydrite	2,770'

Geophysical logs: Schlumberger, interval unknown

Comments: Sulphur test

Completed: D&A 11/1942

Well: Petroleum Corporation of Mississippi No. 1 Board of
Education 16-8

API well number: 23-085-20202

Location: 764' FNL and 405' FEL of SE/4 of NE/4 of
Section 16-T5N-R9E (scout ticket), 764' FNL and 405' FEL
of Section 16 (log heading)

Elevation: 450' GL (est. on log heading), 462' GL (topo-
graphic map), 456' DF, 457' KB

Total depth: 3,124'

Reported formation tops: (scout ticket)

Jackson	1,915'
Cockfield	2,190'
Sparta	2,640'

Geophysical logs: Atlas Wireline Services Dual Induction
Focused Log 521'-3,122'

Comments: No cores or tests reported

Completed: D&A 12/1988

Well: Freeport Sulphur Company No. 1 Homer P. Lee

API well number: 23-085-00256

Location: 1,128' S and 145' W of NE/corner of Section 21-
T5N-R9E

Elevation: 555' GL (topographic map), 513' GL (?)
(Mississippi State Oil and Gas Board well file), 521' DF
(scout ticket)

Total depth: 2,745' (Mississippi State Oil and Gas Board
well file), 2,734' (scout ticket)

Reported formation tops: (drillers log)

cap rock	2,244'
anhydrite	2,728'

Geophysical logs: Schlumberger 990'-2734'

Comments: Spotted stains of oil in top of cap rock. Plugged
back to 2,400' and perforated 2,180'-238'. Ran drillstem test

recovering sulphur water. Drilled out cement to 2,263' and ran a drillstem test with packer at 2,240', recovered salt water. Sulphur test

Completed: D&A 9/1942

Well: Florida Gas Exploration Company No. 1 R. J. Burnette et al.

API well number: 23-085-20080

Location: 660' FNL and 660' FEL of S/2 of SW/4 of Section 22-T5N-R9E

Elevation: 450' GL, 460' DF, 462' KB

Total depth: 8,472' original hole, 8,679' 1st sidetrack hole, 10,428' 2nd sidetrack hole

Reported formation tops: (scout ticket, Mississippi State Oil and Gas Board well file)

Wilcox 3,590' (scout ticket)

Selma 6,599'

Eutaw-upper

Tuscaloosa 7,452'

Lower Tuscaloosa 8,594'

cap rock 8,972'

salt 9,352'

Geophysical logs: Schlumberger Dual Induction-Laterolog (TVD) 2,099'-9,490', Compensated Formation Density-Compensated Neutron Log/Gamma Ray

Comments: Drilled to 8,472', stuck drill pipe, plugged back to 2,500' and sidetracked at 2,913'. Drilled to 8,679' in sidetrack hole. Plugged back to 8,000', sidetracked at 8,143', and drilled to total depth of 10,428' in salt.

Completed: D&A 7/1975

Well: Freeport Sulphur Company No. 1 Mrs. Grace Clark

API well number: 23-085-00255

Location: 2,360' E and 1,100' S of NW corner of Section 22-T5N-R9E

Elevation: 515' GL (topographic map), 467' DF

Total depth: 2,785'

Reported formation tops: (drillers log)

cap rock 2,438'

anhydrite 2,760'

Geophysical logs: Schlumberger over unknown interval

Comments: Heavy asphaltic oil show reported in top of cap rock. Sulphur test

Completed: D&A 10/1942

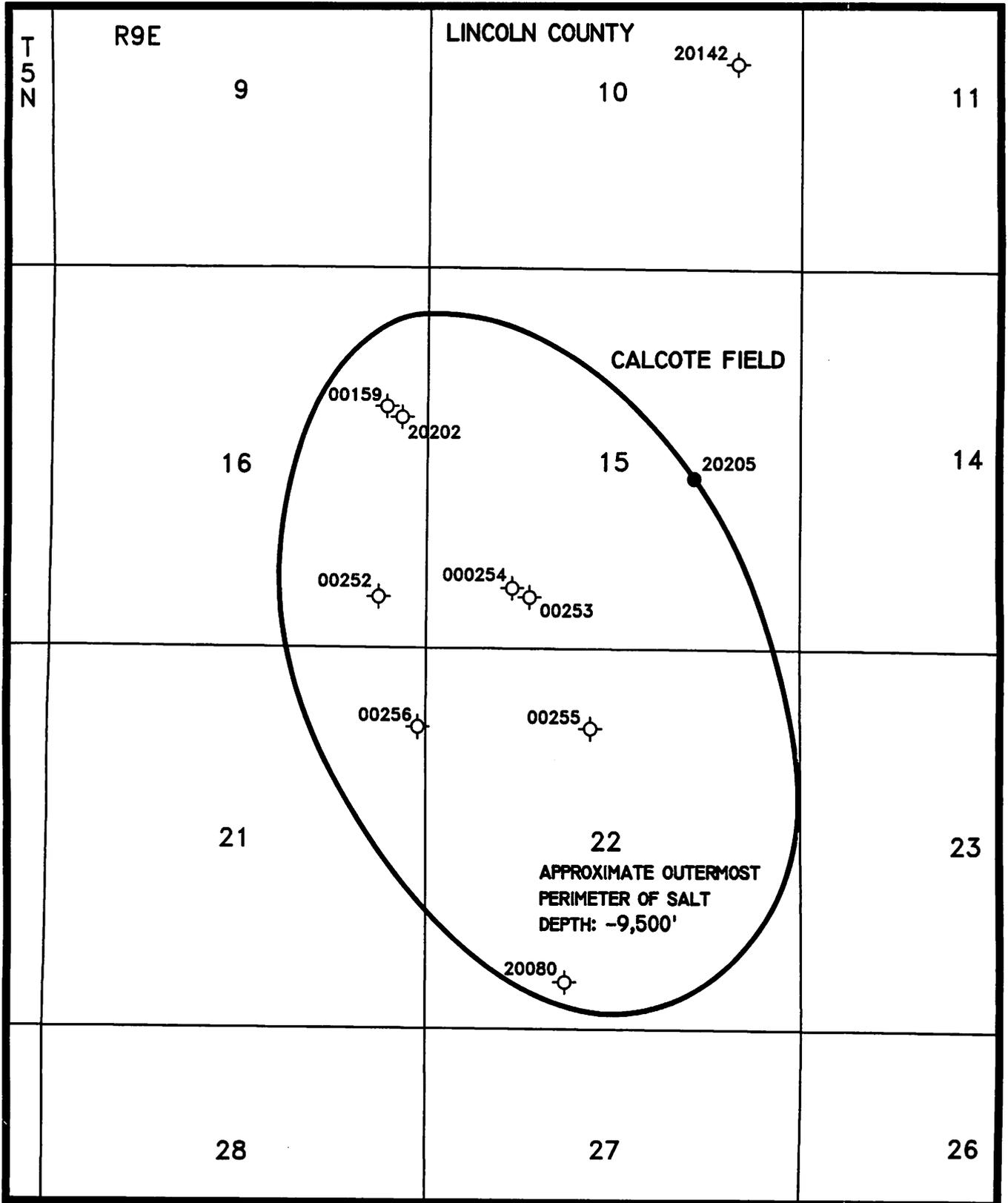
PRODUCTION

Cumulative Production to 1/1/1995

	Oil (barrels)	Gas (MCF)
Calcote Field		
Ferry Lake anhydrite	7,381	8,175

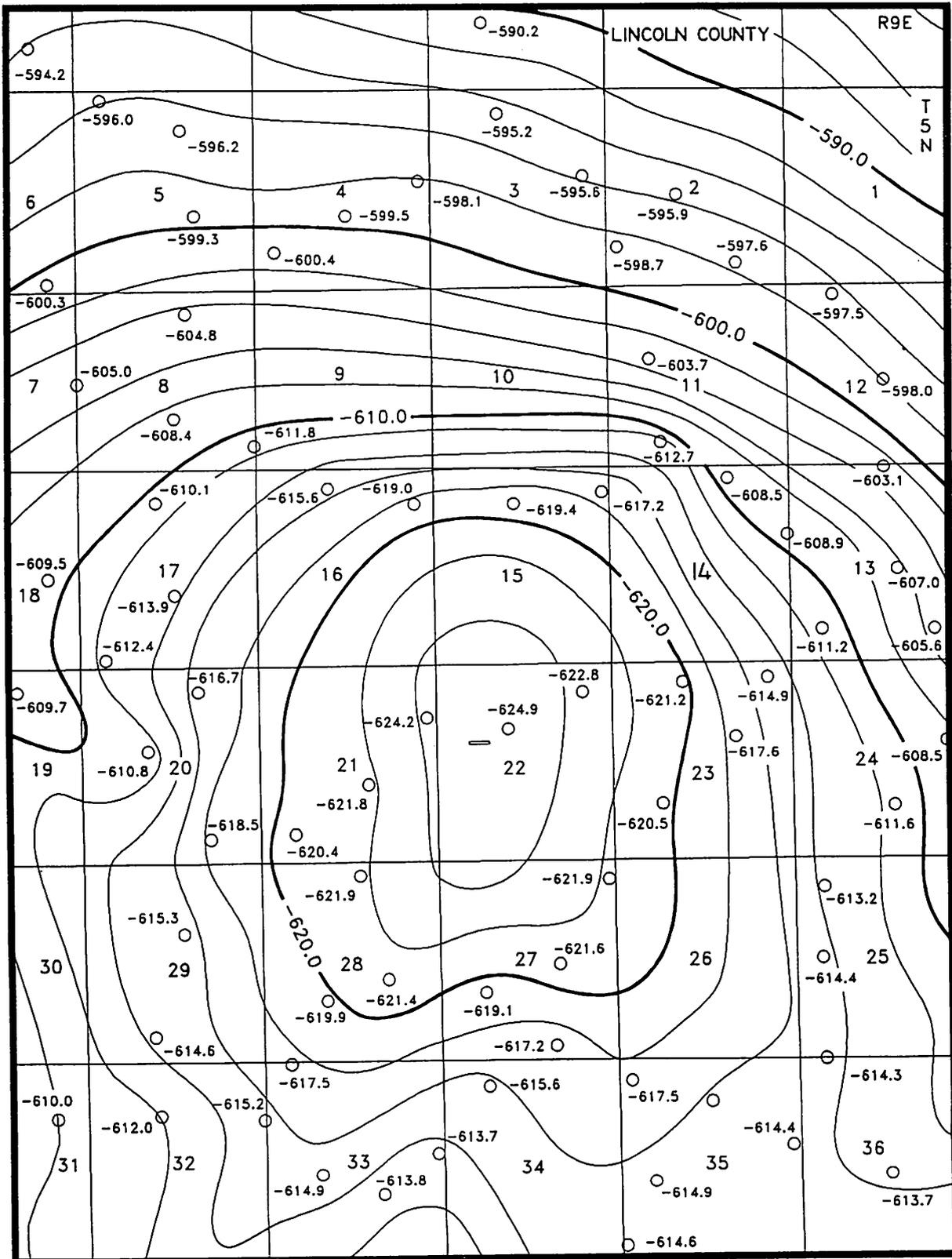
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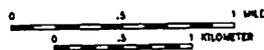


RUTH DOME

FIGURE 135

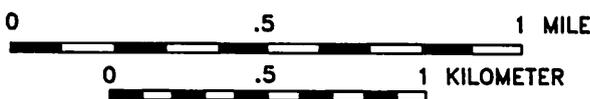
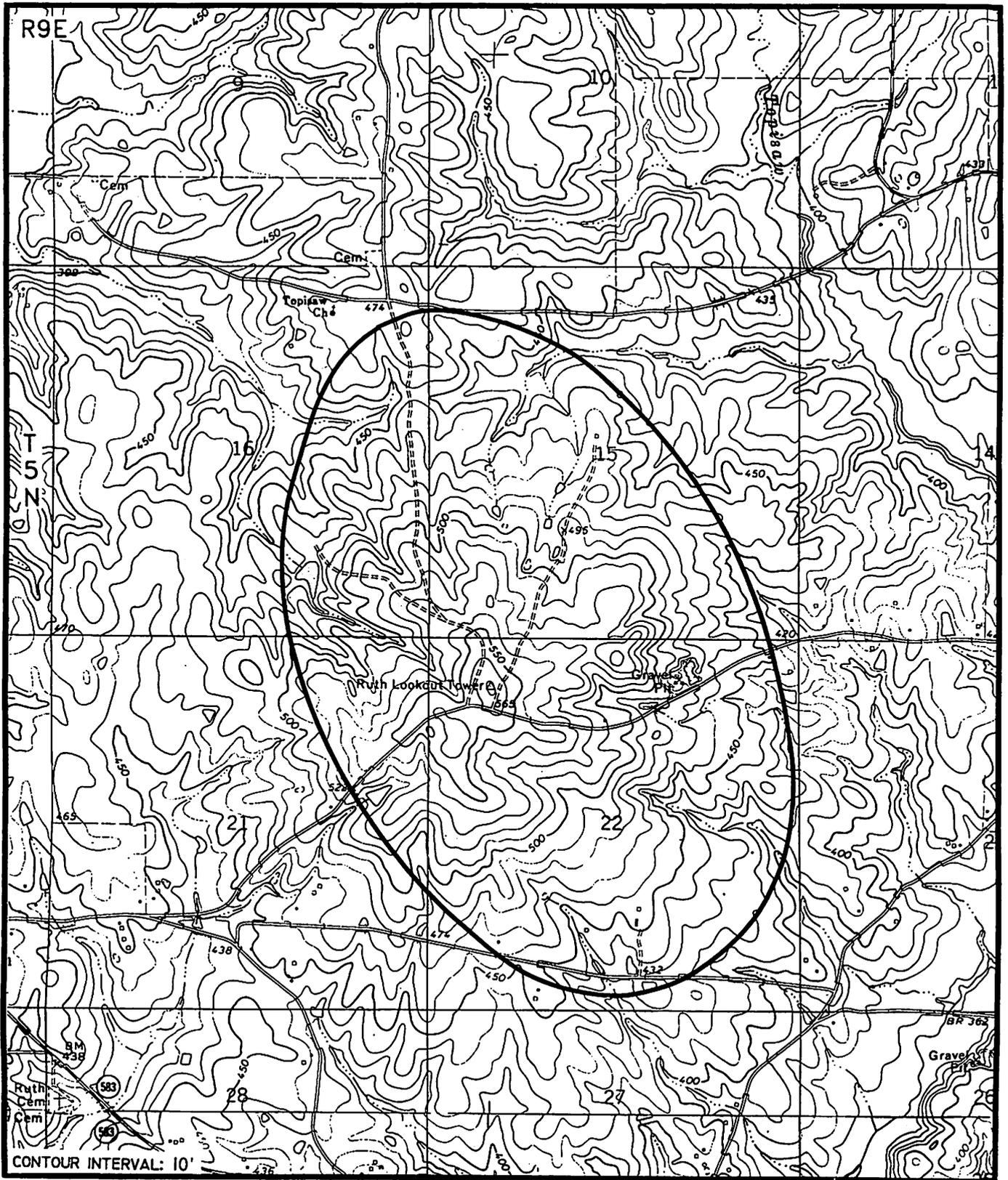


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RUTH DOME AREA

FIGURE 136



RUTH DOME

FIGURE 137

SARDIS CHURCH SALT DOME

GENERAL DATA

Location: Sections 20,21,28,29-T10N-R9E, Copiah County, Mississippi

USGS topographic map(s): Shady Grove

Geophysical data: Regional Bouguer gravity shows a poorly defined low relief minimum with a more well defined cap rock maximum.

Estimated size and shape: Approximately circular, 1.5 miles in diameter

Estimated base fresh water (10,000 ppm): -3,600'

Economic use: None to date

Shallowest known cap rock: 1,448' (Freeport Sulphur Company No. 1 Ernest Allen)

Shallowest known salt: Not reached

Oldest formation penetrated within one mile of dome: Lower Eocene Wilcox Formation on top of dome (Freeport Sulphur Company No. 1-A W. B. Cliburn). There are no flank wells.

Nearest oil or gas production: Glancy Field, 10 miles west, produces from the Lower Cretaceous Rodessa and Hosston formations and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Freeport Sulphur Company No. 1 Cecil Bell

API well number: 23-029-00013

Location: 1,115' W and 1,075' S of NE/corner of Section 29-T10N-R9E (map no. 1)

Elevation: 381' (?), 377' GL (topographic map)

Total depth: 2,262'

Reported formation tops: (drillers log)

cap rock 1,483'

anhydrite 2,242'

Geophysical logs: Schlumberger 47'-1,478'

Comments: Cored 1,492'-502', recovered 10' cap rock. Sulphur test

Completed: D&A 5/1943

Additional drilling:

Well: Freeport Sulphur Company No. 2 Cecil Bell

API well number: 23-029-00014

Location: 200' W and 60' N of SE/corner of Section 20-T10N-R9E (map no. 2)

Elevation: 401' GL (topographic map), 408' (?) (Mississippi State Oil and Gas Board well file), 410' DF (scout ticket)

Total depth: 2,025'

Reported formation tops: (drillers log)

cap rock 1,586'

Geophysical logs: Schlumberger 10'-1,630'

Comments: Bit and reamer stuck 80' above bottom of hole, left 300' in hole.

Completed: J&A 10/1943

Well: Freeport Sulphur Company No. 1 Ernest Allen

API well number: 23-029-00012

Location: 1,580' S and 236' E of NW/corner of Section 28-T10N-R9E (map no. 3)

Elevation: 377' (?), 379' GL (topographic map)

Total depth: 2,310'

Reported formation tops: (drillers log)

cap rock 1,448'

gypsum 2,290'

Geophysical logs: Schlumberger 25'-1,452', Halliburton (Jeep) from 1,454' and from 2,310'.

Comments: Cored 1,490'-95', recovered "hard li" (limestone) with spotted asphalt shows. Sulphur test

Completed: D&A 12/1943

Well: Freeport Sulphur Company No. 1 W. B. Cliburn

API well number: 23-029-00015(?)

Location: 350' S and 2,500' W of NE/corner of Section 29-T10N-R9E (map no. 4)

Elevation: 410' GL

Total depth: 415'

Reported formation tops:

Geophysical logs: Schlumberger 40'-390'

Comments: Hole abandoned because of cave-in. It is not clear if the replacement well, the Freeport Sulphur Company No. 1-A W. B. Cliburn listed next, was given a new API number or whether this well had the same number assigned to it first.

Completed: D&A 9/1943

Well: Freeport Sulphur Company No. 1-A W. B. Cliburn

API well number: 23-029-00015

Location: N 45° E 40' of original hole in Section 29-T10N-R9E (map no. 5)

Elevation: 412' GL (scout ticket)

Total depth: 2,330'

Reported formation tops: (drillers log)

Tallahatta 1,140'

Wilcox 1,530'

cap rock 1,915'

anhydrite 2,315'

Geophysical logs: Schlumberger 543'-2,100'

Comments: Replacement well for Freeport Sulphur Company No. 1 W. B. Cliburn. Sulphur test

Completed: D&A 10/1943

Well: Freeport Sulphur Company No. 1 B. F. James

API well number: 23-029-00017

Location: 3,060' S and 1,115' W of NE/corner of Section 29-T10N-R9E (map no. 6)

Elevation: 375' GL (topographic map), 384' (?)

Total depth: 796' original hole, 1,865' sidetrack hole No. 1, 712' sidetrack hole No. 2

Reported formation tops:

Geophysical logs: Schlumberger 48'-635'

Comments: "A lose-out at 737' was plugged with Cal-Seal and when drilling was resumed the hole was side-tracked at 630'. ... A lose-out occurred when this depth (1,865') was reached and the formation caved thereby prohibiting reentry in the hole below 692 feet and at which depth the hole was side-tracked a second time" (Mississippi State Oil and Gas Board well file completion report). No domal material encountered. Sulphur test

Completed: D&A 1/1943

Well: Freeport Sulphur Company No. 1 H. E. Richardson

API well number: 23-029-00018

Location: 1,924' S and 1,964' W of NE/corner of Section 29-T10N-R9E (map no. 7)

Elevation: 381' GL (topographic map), 391' (?)

Total depth: 631'

Reported formation tops: (sample/drillers log)
cap rock 508'

Geophysical logs: Schlumberger 30'-533'

Comments: It is questionable whether this "hard calcitic limestone" is cap rock. Other wells on the crest of the dome, to the north and east of this well, encountered hard limestone in the 400'-700' depth range which was not cap rock. That the shallow limestone was not cap rock in these wells is also suggested by the fact that they drilled through it into normal sediments without encountering salt, and on into true caprock with anhydrite at depths of 1,448'-1,915'. If this were cap rock it would be 940' higher than other cap rock depths in the wells located north and east of this well. This could be indicating faulting within the caprock. No wells have penetrated salt on this dome, and therefore the thickness of cap rock at Sardis Church is unknown. The thickness of cap rock at other Mississippi Salt Basin domes varies from a few tens of feet to generally less than 500'. Mellen did not consider this to be cap rock. While running 4" casing, it parted at 406'. Sulphur test

Completed: J&A 6/1943

Well: Freeport Sulphur Company No. 1 Southern Package Corporation

API well number: 23-029-00019

Location: 1,250' S and 2,700' W of NE/corner of Section 29-T10N-R9E (map no. 8)

Elevation: 414' GL

Total depth: 2,202'

Reported formation tops: (drillers log)
cap rock 426'-1,030'

Geophysical logs: Schlumberger 113'-2,186'

Comments: See the comments under reported formation tops of the previous well. For this to be cap rock it would have to be an overhang or thrust faulting, as there are normal sediments underneath it. It is probably not an overhang as the well to the southwest does not encounter an overhang and it is closer to the edge of the dome. Sulphur test

Completed: D&A 8/1943

Well: Freeport Sulphur Company No. 2 Southern Package Corporation

API well number: 23-029-00020

Location: 1,950' S and 3,500' W of NE/corner of Section 29-T10N-R9E (map no. 9)

Elevation: 379' GL

Total depth: 2,023'

Reported formation tops: (drillers log)
cap rock 657' (655' log)

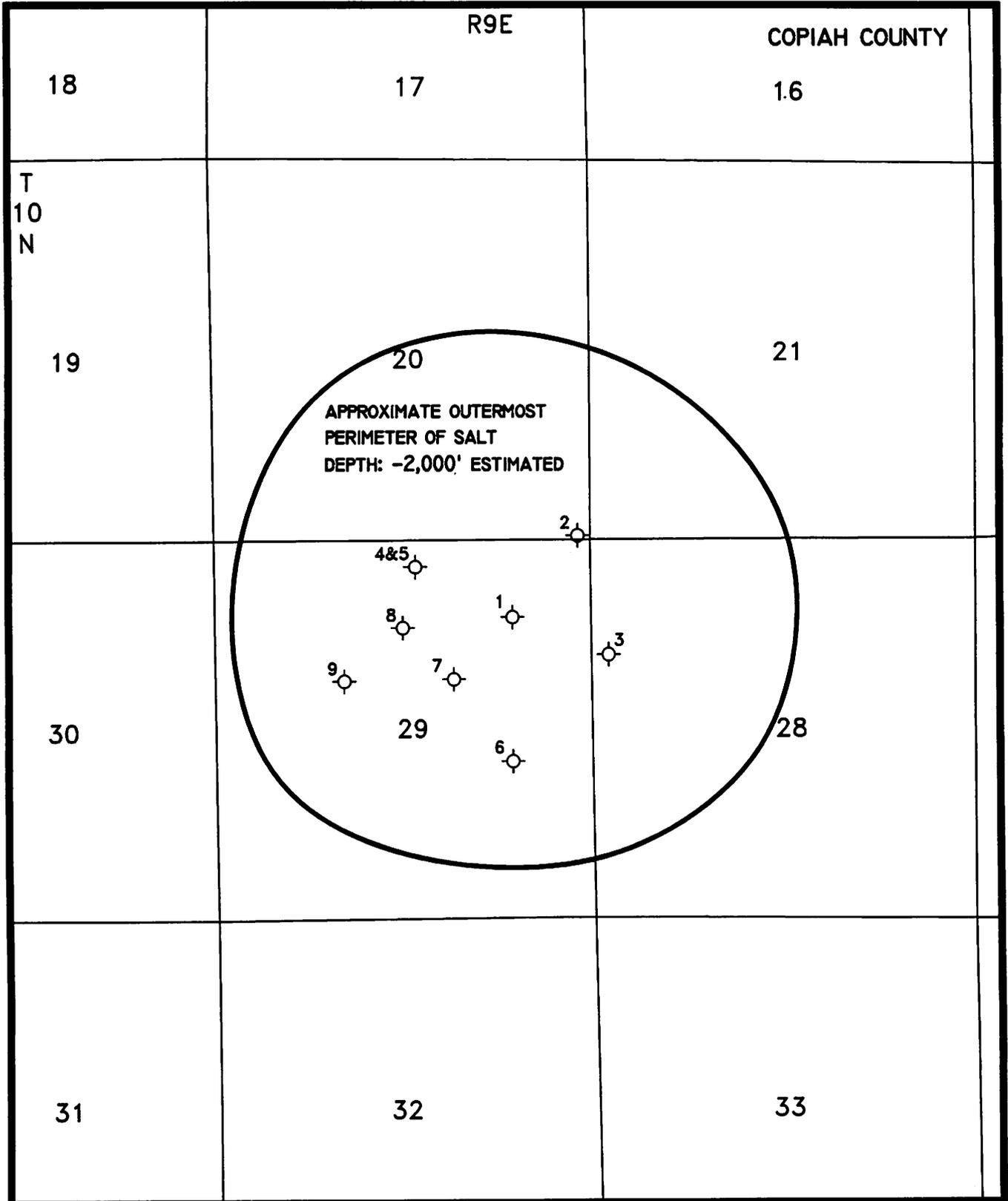
Geophysical logs: Schlumberger 108'-2,009'

Comments: See comments under reported formation tops of previous two wells. According to the driller's formation tops this well was in cap rock to total depth of 2,023', for a total cap rock thickness of 1,366'. Much of the interval from 657'-2,023' in this well is shale, including the bottom 478', and is unlikely to be cap rock. "(no suggestion of cap in log)" (Mellen). Sulphur test

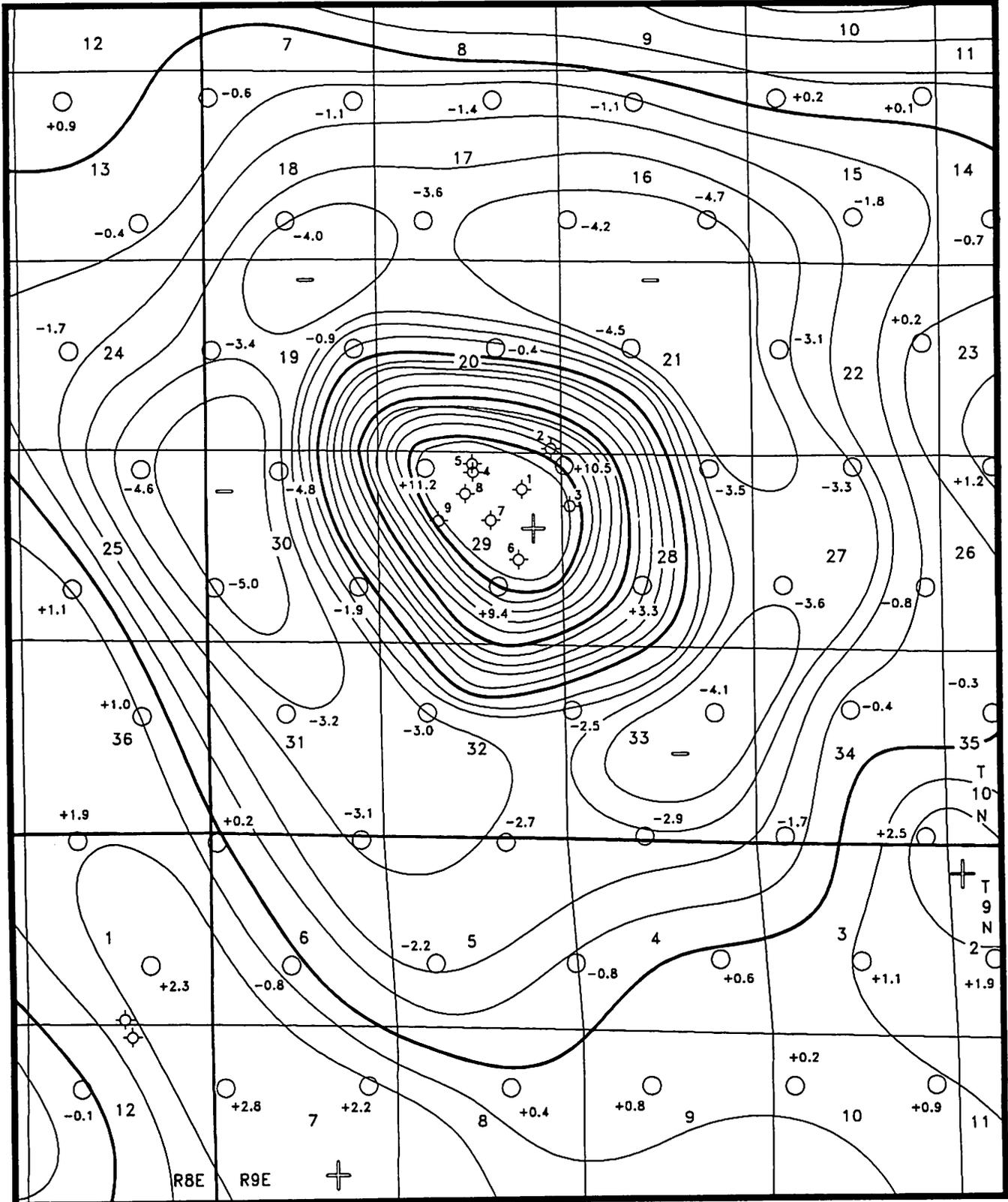
Completed: D&A 8/1943

SELECTED REFERENCES

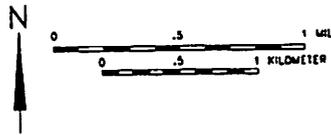
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SARDIS CHURCH DOME
FIGURE 138

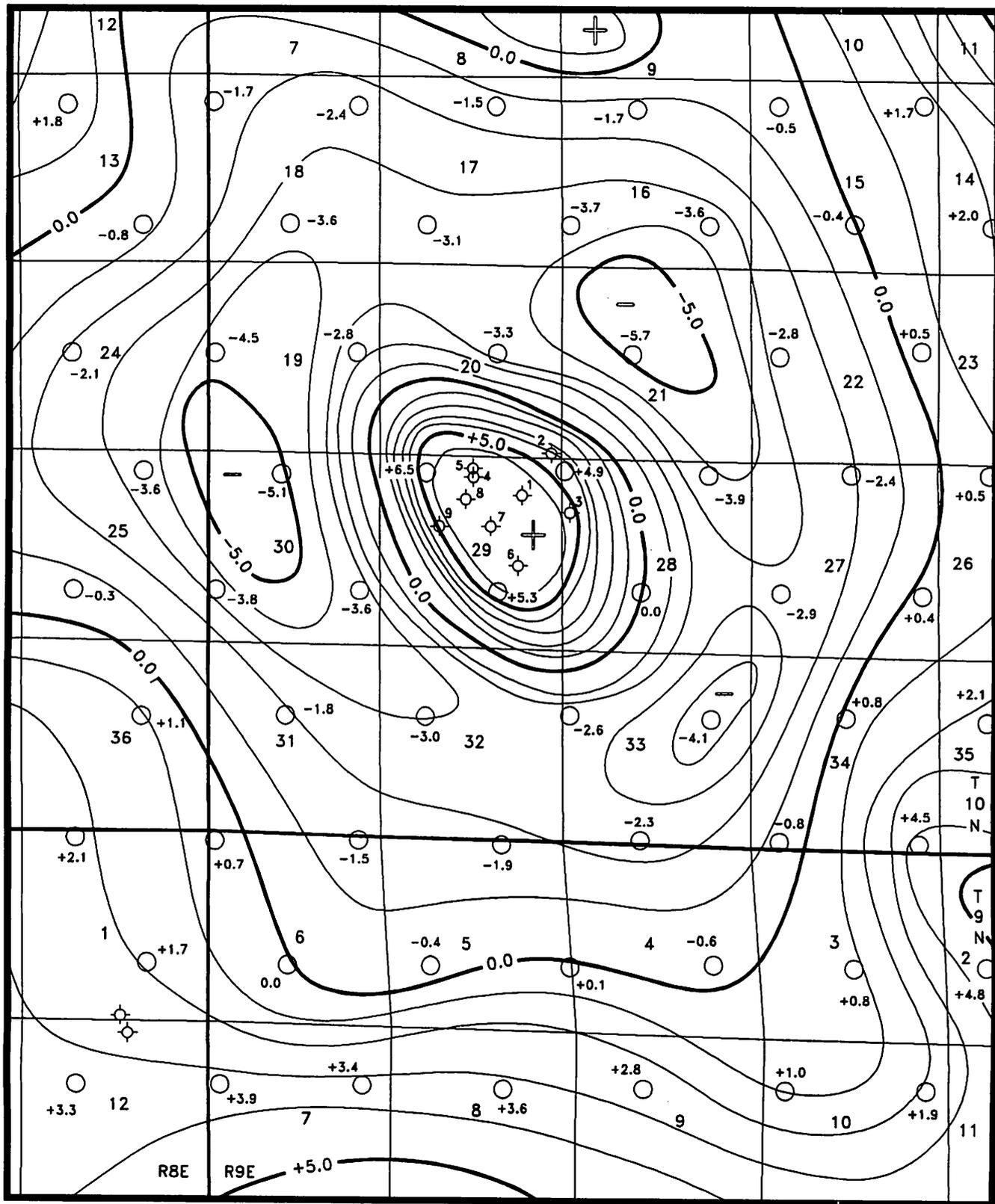


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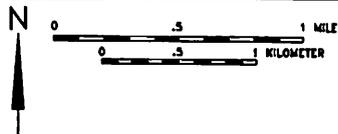


SARDIS CHURCH DOME AREA

FIGURE 140

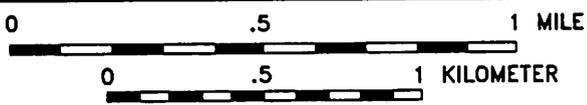
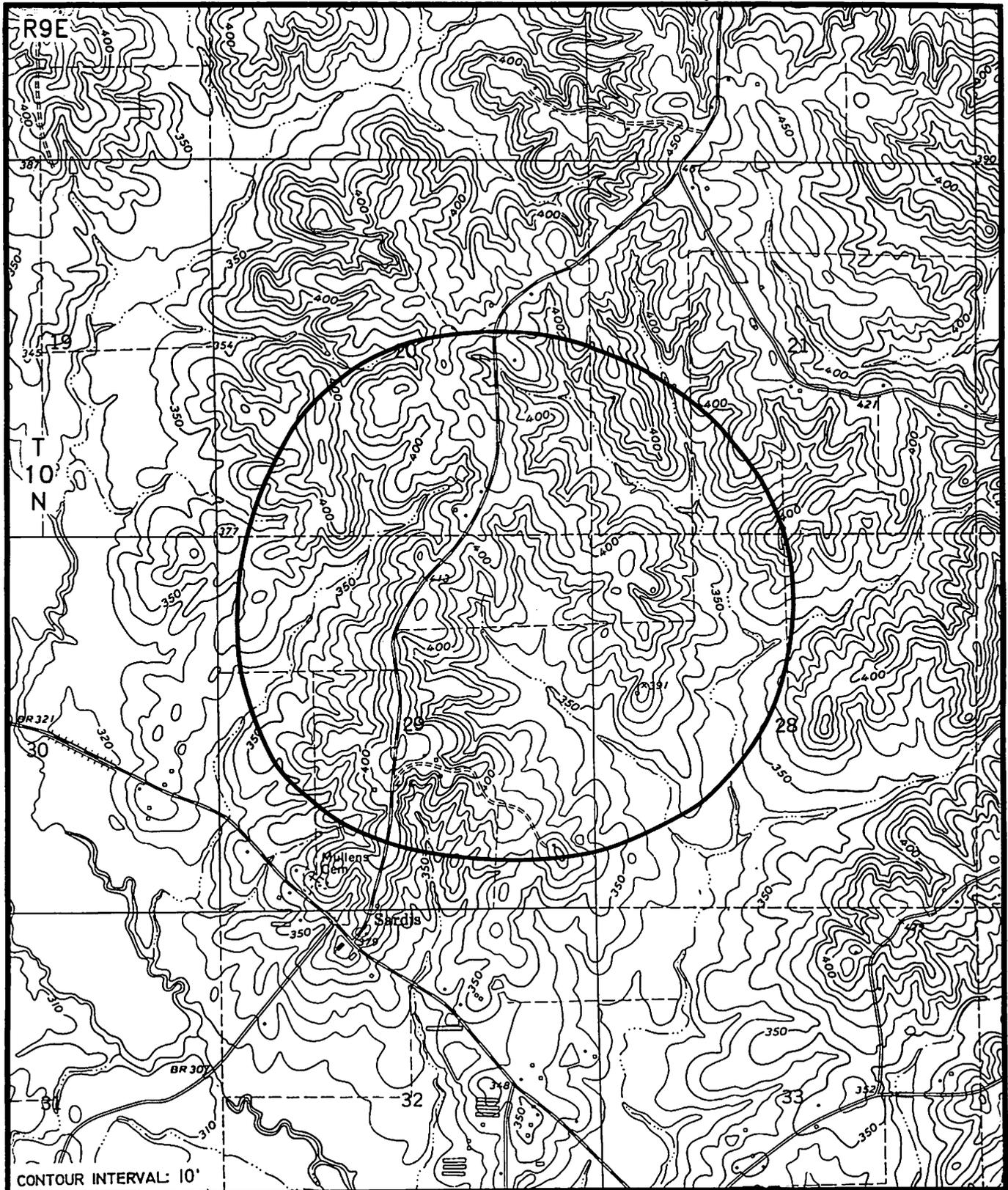


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SARDIS CHURCH DOME AREA

FIGURE 141



SARDIS CHURCH DOME

FIGURE 142

SUNRISE SALT DOME

GENERAL DATA

Location: Sections 5,8,9,16,17-T4N-R12W, Forrest County, Mississippi

USGS topographic map(s): Carterville

Geophysical data: Regional Bouguer data shows Sunrise dome to be on a large 1.5 township size gravity minimum which has 30-40 milligals of relief. Both Sunrise and Petal domes are on this large minimum.

Estimated size and shape: Limited control; probably oval, 1.5 miles northwest-southeast diameter and 1 mile north-east-southwest diameter.

Estimated base fresh water (10,000 ppm): -1,500'

Economic use: None to date

Shallowest known cap rock: 5,610' (California Company No. 1 C. E. Berry)

Shallowest known salt: 5,940' (California Company No. 1 C. E. Berry)

Oldest formation penetrated within one mile of dome: Lower Cretaceous (T. M. Evans No. 1 E. L. Batten et al. unit)

Nearest oil or gas production: Ralston Field (abandoned), 6 miles southwest, produced from the Upper Cretaceous Lower Tuscaloosa Formation.

DRILLING HISTORY

Discovery well: California Company No. 1 C. E. Berry

API well number: 23-035-00005

Location: 618' N and 515' W of SE/corner of Section 8-T4N-R12W

Elevation: 198' DF

Total depth: 6,028'

Reported formation tops: (scout ticket)

Winona	2,185'
Wilcox	2,538'
cap rock	5,610'
salt	5,940'

Geophysical logs: Schlumberger electrical log 1,862'-6,011'

Comments: Cored 6,008'-28', recovered 10' salt. A-1 sidewall cores [(note: A-1 sidewall cores is a name used by at least two companies referring to at least three sidewall coring mechanisms. None were available after the early 1950s in this area. The method referred to here had a whipstock in the drill string. A 5'-6' long coring assembly with a universal joint was lowered to protrude out of the whipstock into the side of the borehole at an angle of approximately 12°-14°. The drill string was rotated, driving the coring tool with the universal joint. The tool and core were recovered by running an overshot on a wireline. Pulling of the drill string was unnecessary prior to repositioning to repeat the coring

process. This coring service was offered by a company named A-1 Wireline Cores (Vockroth, George B.). A method offered by a company named A-1 Tool Company, (possibly the same as A-1 Wireline Cores?) mounted the coring assembly on the bottom of the drill string. The coring tool was powered much like present day jars-by torquing-up the drill string and suddenly releasing the torque. This drove the core tool into the bottom of the hole. Recovery with this method averaged 4"-6" (Clark, Glenn E.). Halliburton Logging Company offered a percussion sidewall core similar to those offered today called the A-1 (Rader, Thurston C.). An unknown company offered a formation sampling tool which consisted of a drill string? mounted, wedge-shaped cutter which was forced against the borehole wall as the drill string was lowered, gouging out a roughly triangular formation sample (Kendrick, F. Ed.): 5,880', recovered 9" anhydrite with black oil stain; 5,712', recovered 12" anhydrite with black oil stain and odor with 45° dip; 5,633', recovered 12" anhydrite with black oil stain; 5,650', recovered 3" anhydrite with no show; 5,546', recovered 14" fossiliferous limestone with no show; 5,303', recovered 2" limestone with pyrite and streaks of calcite; 5,100', recovered fragments of black shale and limestone.

Completed: D&A 6/1951

Additional drilling:

Well: Humble Oil & Refining Company No. 1 J. A. Griffin

API well number: 23-035-00048

Location: 1,980' N and 1,980' W of SE/corner of Section 4-T4N-R12W

Elevation: 207' GL, 220' DF

Total depth: 9,418'

Reported formation tops: (scout ticket)

Moodys Branch	1,510'
Wilcox	2,364'
Midway	5,079'
chalk	5,802'
base chalk	7,344'
marine Tuscaloosa	8,400'
Lower Tuscaloosa	8,610'
massive sand	8,954'(?)
Lower Cretaceous	9,060'(?)

Geophysical logs: Schlumberger electrical log 76'-9,418'

Comments: Cored 7,405'-15', recovered 10' shale, no show; 7,495'-505', recovered 9' shale, no show; 8,545'-55', recovered 8' shale with sand streaks; 8,555'-80' (3 cores), recovered 17' 6" shale; 8,611'-24' (2 cores), recovered 10' sandy shale and sand, no show; 8,624'-29', recovered 5' sandy shale; 8,629'-39' (2 cores), recovered 10' salt water sand; 8,757'-62', recovered 5' sandy shale; 8,762'-67', recovered 5' salt water sand; 8,950'-55', recovered 5' shale; 8,955'-65', recovered 7' 6" salt water sand.

Completed: D&A 3/1949

Well: Coho Resources No. 1 Graham 8-10
API well number: 23-035-20113
Location: 1,980' FSL and 2,180' FEL of Section 8-T4N-R12W
Elevation: 214' GL
Total depth: 6,310'
Reported formation tops:
Geophysical logs: None run
Comments: in chalk at TD. Stuck drill pipe, could not recover.
Completed: J&A 7/1988

Well: Coho Resources No. 1-A Graham 8-10
API well number: 23-035-20114
Location: 1,980' FSL and 2,220' FEL of Section 8-T4N-R12W
Elevation: 214' GL
Total depth: 7,282'
Reported formation tops:
Geophysical logs: Schlumberger Dual Induction-SFL 826'-7,275'. Caliper, dipmeter, gamma-ray, microlog, and sonic logs also run over unknown intervals.
Comments: No cores or drillstem tests.
Completed: D&A 8/1988

Well: T. M. Evans (T. M. Evans Production Corp.) No. 1 E. L. Batten et al. unit (T. M. Evans & E. L. Batten et al. unit)
API well number: 23-035-00024
Location: 1,980' W and 485' N of SE/corner of Section 9-T4N-R12W
Elevation: 275' DF
Total depth: 7,802'
Reported formation tops: (scout ticket)

Sparta	1,918'
Wilcox	2,453'
base big shale	3,648'
fault (195' out)	3,695'
Midway	4,782'
Clayton	5,417'
Selma	5,432'
fault (280' out)	5,680'
fault (170' out)	5,980'
base chalk/Eutaw	6,360'
fault (150' out)	6,360'
Tuscaloosa	6,527'
marine Tuscaloosa	6,927'
Lower Tuscaloosa	7,100'

massive sand	7,455'
Lower Cretaceous	7,633'

Geophysical logs: Schlumberger reported over unknown interval

Comments: Cored 6,748'-98', recovered 11' sandstone, no show; 6,965'-76', recovered 1' gray, firm, slightly porous and permeable sandstone with shale streaks and no show, 2' shale, 4' porous and permeable sandstone with no show; 7,207'-27', no recovery; 7,708'-28', recovered 10' fine grained sand with dead asphaltic residue-strong odor. Logged sands with "Schl" resistivity 7,670'-78' and 7,686'-723'. Set 7" casing at 7,800'. Perforated 7,670'-76' and 7,684'-746'. Swabbed only salt water.

Completed: D&A 11/1953

Well: Inexco Oil Company No. 1 Board of Education (Supervisors)

API well number: 23-035-20092

Location: 2,000' FNL and 1,500' FWL of Section 16-T4N-R12W

Elevation: 216' GL, 237' DF, 238' KB

Total depth: 9,156'

Reported formation tops: (scout ticket)

chalk	5,612'
base chalk	7,000'
marine Tuscaloosa	7,980'
Lower Tuscaloosa	8,368' (sample log)
Lower Cretaceous	8,620' (sample log)
salt	8,950' (sample log)

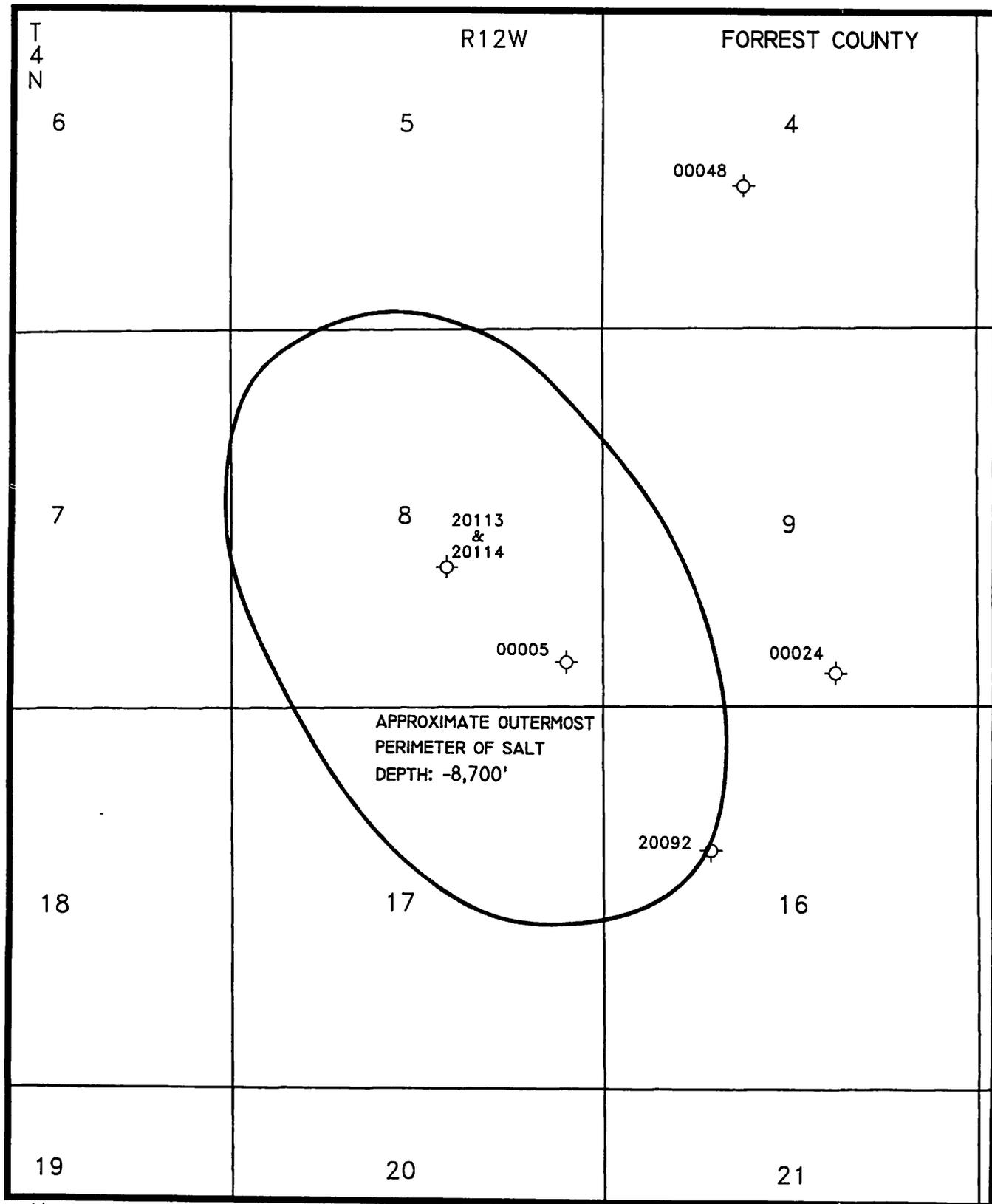
Geophysical logs: Schlumberger Dual Induction-SFL 3,062'-8,146'

Comments: In salt at TD. Log not run to total depth due to poor hole conditions.

Completed: D&A 1/1981

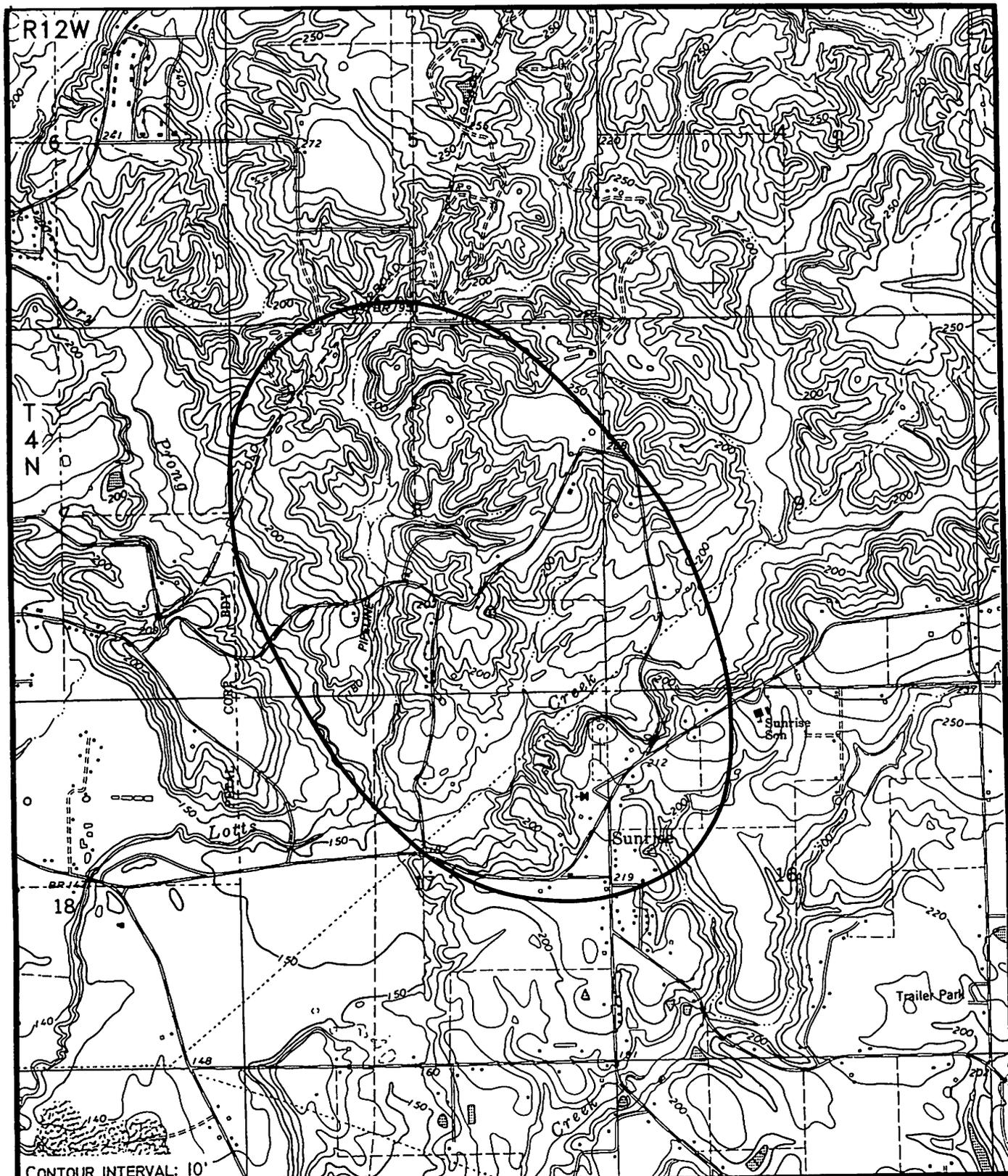
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- Clark, Glenn E., 1994, core analysis company owner: personal communication.
- Kendrick, F. Ed., 1994, retired Schlumberger logging engineer and well-site log analyst: personal communication.
- Rader, Thurston C., 1994, retired Halliburton Company engineer: personal communication.
- Vockroth, George B., 1994, retired Chevron (California Company) geologist: personal communication.



SUNRISE DOME

FIGURE 143



SUNRISE DOME

FIGURE 144

TATUM SALT DOME

GENERAL DATA

Location: Sections 11,12,13,14-T2N-R16W, Lamar County, Mississippi

USGS topographic map(s): Baxterville, Baxterville NE

Geophysical data: Regional Bouguer data shows Tatum salt dome to be on a gravity minimum 2 townships in size, which has approximately 30 milligals of relief.

Estimated size and shape: Nearly circular, approximately one mile in diameter.

Estimated base fresh water (10,000 ppm): -2,000'

Economic use: Nuclear detonation test site (Salmon, 1964 and Sterling, 1966 events)

Shallowest known cap rock: 872' (Freeport Sulphur Company No. 4 W. S. F. Tatum)

Shallowest known salt: 1,469' (U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Post Shot (P.S.) Hole no. 1 and U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 15 (E-15))

Oldest formation penetrated within one mile of dome: Probable Upper Cretaceous Eutaw Formation (Tatum Lumber Company No. 2 W. S. F. Tatum)

Nearest oil or gas production: Baxterville Field, 3 miles southeast, produces oil and gas from the Eocene Wilcox Formation; Upper Cretaceous Austin and Selma chalks, Eutaw, Eagleford, Upper Tuscaloosa, and Lower Tuscaloosa formations; and Lower Cretaceous Washita-Fredericksburg, Paluxy, and Hosston formations.

DRILLING HISTORY

Discovery well: Tatum Lumber Company (Willmut Oil & Gas Company) No. 1 W. S. F. Tatum

API well number: 23-073-00195

Location: center of NE/4 of Section 14-T2N-R16W (map no. 1)

Elevation: 265' GL (topographic map), 273' (scout ticket), 286' RT (log)

Total depth: 1,976'

Reported formation tops: (scout ticket, driller's log)

anhydrite 1,096'

salt 1,516'

Geophysical logs: Not logged (Mellen)

Comments: Cored 1,720'-36'

Completed: D&A 10/1940

Additional drilling:

Well: Freeport Sulphur Company No. 4 W. S. F. Tatum

API well number: 23-073-00234

Location: 470' N and 300' W of SE/corner of Section 11-T2N-R16W (map no. 2)

Elevation: 240' GL (topographic map), 247' GL (scout ticket), 255' RT (log)

Total depth: 1,049'

Reported formation tops: (drillers log)

cap rock 872'

anhydrite 1,018'

Geophysical logs: Halliburton Oil Well Cementing Co. Well Log 52'-893'

Comments: Salt not reached according to Mississippi State Oil and Gas Board well file. Sulphur test

Completed: D&A 8/1941

Well: Freeport Sulphur Company No. 5 W. S. F. Tatum

API well number: 23-073-00235

Location: 1,310' N and 1,683' W of SE/corner of Section 11-T2N-R16W (map no. 3)

Elevation: 240' GL (topographic map), 257' RT (Mississippi State Oil and Gas Board file and log heading), 257' DF (scout ticket)

Total depth: 1,103'

Reported formation tops: (drillers log)

cap rock 905'

anhydrite 1,037'

Geophysical logs: Schlumberger 52'-912' (reported on scout ticket), and Halliburton Oil Well Cementing Co. Well Log (JEEP) 52'-912' (Mississippi State Oil and Gas Board well file)

Comments: Salt not reached according to Mississippi State Oil and Gas Board well file. Sulphur test

Completed: D&A 8/1941

Well: Freeport Sulphur Company No. 9 W. S. F. Tatum

API well number: 23-073-00239

Location: 2,110' N and 1,683' W of SE/corner of Section 11-T2N-R16W (map no. 4)

Elevation: 245' GL (topographic map), 268' RT (Mississippi State Oil and Gas Board well file), 268' DF (scout ticket)

Total depth: 1,570'

Reported formation tops: (drillers log)

cap rock 1,161'

gypsum 1,288'

anhydrite 1,325'

salt 1,503'

Geophysical logs: No logs run (Mellen)

Comments: Sulphur test

Completed: D&A 11/1941

Well: Freeport Sulphur Company No. 10 W. S. F. Tatum

API well number: 23-073-00240

Location: 3,000' W and 300' N of SE/corner of Section 11-T2N-R16W (map no. 5)

Elevation: 260' GL (topographic map), 279' RT (Mississippi State Oil and Gas Board well file), 279' DF (scout ticket)

Total depth: 1,299'

Reported formation tops: (drillers log)

cap rock 1,002'

anhydrite 1,127'

Geophysical logs: No logs run (Mellen)
Comments: Salt not reached according to Mississippi State Oil and Gas Board well file. Sulphur test
Completed: D&A 1/1942

Well: Freeport Sulphur Company No. 7 W. S. F. Tatum
API well number: 23-073-00237
Location: 2,271' S and 1,052' E of NW/corner of Section 13-T2N-R16W (map no. 6)
Elevation: 248' GL (topographic map), 260' RT (Mississippi Oil and Gas Board well file), 260' DF (scout ticket), 252' (?) (log heading)
Total depth: 2,095'
Reported formation tops:
Geophysical logs: Schlumberger 2,007'-95' (scout ticket), Halliburton Oil Well Cementing Co. Well Log 200'-2,089' (Mississippi State Oil and Gas Board well file)
Comments: According to the Mississippi State Oil and Gas Board well file, cap rock was not reached, the well remaining in normal sediments to total depth. Sulphur test
Completed: D&A 10/1941

Well: Freeport Sulphur Company No. 8 W. S. F. Tatum
API well number: 23-073-00238
Location: 1,070' S and 250' E of NW/corner of Section 13-T2N-R16W (map no. 7)
Elevation: 242' GL (topographic map), 256' RT (Mississippi State Oil and Gas Board well file), 256' DF (scout ticket)
Total depth: 1,223'
Reported formation tops: (drillers log)
 cap rock 961'
 anhydrite 1,029'
Geophysical logs: Logged by (?) to 893' (Mellen)
Comments: According to the Mississippi State Oil and Gas Board well file, salt was not reached. Sulphur test
Completed: 10/1941

Well: Humble Oil & Refining Company No. 1 Hibernia Bank & Trust Company
API well number: 23-073-00093
Location: 1,646' N and 2,307' W of SE/corner of Section 13-T2N-R16W (map no. 8)
Elevation: 333' GL (topographic map), 343' DF
Total depth: 6,010'
Reported formation tops: (scout ticket)
 Wilcox 3,010'
 Midway 5,450'
Geophysical logs: Schlumberger Induction-Electrical Log 525'-6,012'
Comments: Took 22 sidewall cores from 975'-5,606', all no show. According to Mellen, the hole was reportedly left open for the AEC (Atomic Energy Commission). The well log shows normal sediments to total depth.
Completed: D&A 11/1960

Well: Plains Production Company & J. D. Reese No. 1 Hibernia Bank & Trust Company

API well number: 23-073-00144
Location: 1,220' N and 2,110' W of SE/corner of Section 13-T2N-R16W (map no. 9)
Elevation: 340' GL (topographic map), 347' DF (scout ticket), 349' DF (log)
Total depth: 5,868'
Reported formation tops: (scout ticket, log)
 Wilcox 3,083'
Geophysical logs: Schlumberger Electrical Log 492'-5,868'
Comments: Mellen reported the well log shows normal sediments to total depth. Attempted 35 sidewall cores from 2,487'-5,841', recovered 31, all no show.
Completed: D&A 11/1951

Well: Tatum Lumber Company (Willmut Oil & Gas Company) No. 2 W. S. F. Tatum
API well number: 23-073-00196
Location: 500' E of SW/corner of NW/4 of SE/4 on 1/4 section line of Section 13-T2N-R16W (map no. 10)
Elevation: 337' GL (topographic map), 370' DF (scout ticket), 349' (?) (L&S reporting service)
Total depth: 7,710' (scout ticket), 7,675' (log)
Reported formation tops: (scout ticket)
 Wilcox 2,612'
 Midway 5,500'
 Selma 6,300'
Geophysical logs: Schlumberger 882'-7,545'
Comments: Mellen reported the well was in normal sediments to total depth.
Completed: D&A 6/1942

Well: Tatum Lumber Company (Willmut Oil & Gas Company) No. 4 W. S. F. Tatum
API well number: 23-073-00198
Location: 3,347' S and 15' E of NW/corner of Section 13-T2N-R16W (map no. 11)
Elevation: 255' GL (topographic map), 265' (?) (scout ticket)
Total depth: 4,661'
Reported formation tops:
Geophysical logs:
Comments: Reported slight gas show 3,185'-95'.
Completed: D&A 10/1942

Well: Freeport Sulphur Company No. 1 W. S. F. Tatum
API well number: 23-073-00231
Location: 2,271' S and 1,348' W of NE/corner of Section 14-T2N-R16W (map no. 12)
Elevation: 255' GL (topographic map), 268' (?) (scout ticket), 276' (?) (Mississippi State Oil and Gas Board file)
Total depth: 1,595'
Reported formation tops: (drillers log)
 cap rock 1,007'
 anhydrite 1,437'
 salt 1,534'
Geophysical logs:
Comments: Sulphur test
Completed: D&A 5/1941

Well: Freeport Sulphur Company No. 2 W. F. S. Tatum

API well number: 23-073-00232

Location: 2,680' S and 2,860' W of NE/corner of Section 14-T2N-R16W (map no. 13)

Elevation: 258' GL (topographic map), 286' DF (?) (scout ticket) 285' (?) (Mississippi State Oil and Gas Board well file)

Total depth: 2,037'

Reported formation tops: (drillers log)

cap rock 1,784'

anhydrite 1,792'

Geophysical logs: Halliburton (JEEP) 52'-1,794'

Comments: Sulphur test

Completed: D&A 6/1941

Well: Freeport Sulphur Company No. 3 W. S. F. Tatum

API well number: 23-073-00233

Location: 1,790' W and 85' S of NE/corner of Section 14-T2N-R16W (map no. 14)

Elevation: 269' GL (topographic map), 296' DF (scout ticket), 296' RT (Mississippi State Oil and Gas Board well file and log)

Total depth: 1,548'

Reported formation tops: (drillers log)

cap rock 967'

gypsum 1,071'

anhydrite 1,074'

salt 1,533'

Geophysical logs: Schlumberger 52'-993' (scout ticket), Halliburton Oil Well Cementing Co. Well Log (JEEP) from 52'-993' (Mississippi State Oil and Gas Board well file)

Comments: Sulphur test

Completed: D&A 7/1941

Well: Freeport Sulphur Company No. 6 W. S. F. Tatum

API well number: 23-073-00236

Location: 1,245' S and 2,959' W of NE/corner of Section 14-T2N-R16W (map no. 15)

Elevation: 275' GL (topographic map), 293' RT (Mississippi State Oil and Gas Board well file and log), 293' DF (scout ticket)

Total depth: 1,554'

Reported formation tops: (drillers log)

cap rock 1,184'

anhydrite 1,400'

salt 1,512'

Geophysical logs: Schlumberger 70'-1,256' (scout ticket), Halliburton Oil Well Cementing Co. Well Log (JEEP) 70'-1,256' (Mississippi State Oil and Gas Board well file)

Comments: Sulphur test

Completed: D&A 8/1941

Well: Shell Oil Company, Inc. No. 1 Hibernia Bank & Trust Company

API well number: 23-073-00326

Location: 880' E and 330' S of NW/corner of Section 14-T2N-R16W (map no. 34)

Elevation: 328' GL (topographic map), 338' DF

Total depth: 9,567'

Reported formation tops:

Wilcox 2,704'

Midway 5,134'

chalk 5,750'

Austin 6,570'

base Austin 6,850'

Tuscaloosa 7,034'

marine Tuscaloosa 8,190'

Lower Tuscaloosa 8,760'

massive sand 9,108'

Lower Cretaceous 9,270'

Geophysical logs: Schlumberger Composite Log 75'-9,567'

Comments: According to Black and Twenhofel (1961), this well established a cap rock domal overhang from -1,450' to -1,580'. The drillers log over this interval (-1,259' to -1,640') describes the samples as hard shale and lime. Geophysical logging shows a highly resistive, probable limestone interval from 1,788'-1,952' (-1,450' to -1,614'). Neither geophysical logs, drillers sample logs, nor completion reports in the Mississippi State Oil and Gas Board well file indicate any salt penetration.

Completed: D&A 12/1944

Well: Tatum Lumber Company (Willmut Oil & Gas Company) No. 3 W. S. F. Tatum

API well number: 23-073-00197

Location: 355' S and 423' W of NE corner of SW/4 of Section 14-T2N-R16W (map no. 16)

Elevation: 273' GL (topographic map), 286' DF (scout ticket)

Total depth: 6,669'

Reported formation tops: (scout ticket, log)

Wilcox 2,753'

chalk 5,660'-66'

salt 6,366'

Geophysical logs: Schlumberger 1,015'-6,654'

Comments: Reported slight oil and gas shows at 3,129', 3,250' and 3,300'.

Completed: D&A 7/1942

TATUM SALT DOME TEST SITE LAMAR COUNTY, MISSISSIPPI

The following is taken from the SITE STATUS REPORT AT DECOMMISSIONING, June 30, 1972.

The AEC Tatum Salt Dome Test Site consisted of leasehold right on 1470 acres within Sections 11, 12, 13 and 14, Township 2 North, Range 16 West, St. Stephens Meridian, Lamar County, Mississippi and additional leaseholding of 26.33 acres in five outlying parcels. Additionally the United States Government acquired all mineral rights in the subsurface of 1,470 acres.

The AEC conducted a program of exploratory drilling, surveying and road-building at the Tatum Salt Dome Test Site from January through September 1961, after which the site was on standby status until September 1962.

Construction started in early 1963 for the Salmon Event, the first of a series of tests called Project Dribble. These tests were planned to evaluate the decoupling principle and to study seismic wave propagation from a nuclear explosion in the Southeastern United States.

Between October 1964 and June 1970, two Project Dribble events, Salmon and Sterling, and two Miracle Play Series events (detonatable gas explosions of methane and oxygen) known as Diode Tube and Humid Water were conducted. Sterling, Diode Tube, and Humid Water events were conducted in the nuclear cavity formed in the salt dome by the Salmon event. Prior to the Sterling event, a third unnamed gas (liquid nitromethane) explosion was used as a calibration shot.

Following the Humid Water event, planning and activities were started on disposal of excess property, plugging of wells to be abandoned, and cleanup and restoration of the site surface preparatory to deactivation and decommissioning of the site on June 30, 1972.

Between the start of the exploratory program in January 1961 and July 1971, the AEC drilled 39 wells on the Tatum Salt Dome Test Site and utilized one off-site commercial drilled exploratory well (Miss. Well No. 13-3, Humble Hibernia #1 and designated by AEC as MTH-3) as a ground water monitoring well.

As part of deactivation work all but six of the forty wells were plugged and abandoned. The six wells which were not plugged will be utilized by the AEC in a ground water monitoring program.

A permanent monument has been erected over ground zero which contains two plaques. The first plaque recounts the historical significance of the events which occurred at this site and the second defines the restrictions on excavation, drilling and/or removal of materials.

PROJECT DRIBBLE

Following is a brief description (Anderson, Eargle, and Davis, 1973) of Project Dribble.

Tatum dome has been used by the Department of Defense and the U. S. Atomic Energy Commission for scientific and defense purposes, including underground atomic detonation. Project Dribble of the Vela Uniform Program was concerned chiefly with the detection of underground nuclear explosions. The Salmon event of Project Dribble served to determine the effects of a coupled (tamped-in; as opposed to decoupled, set off in a cavity) nuclear device of 5 kt (kilotons) capacity (equivalent in energy released to 5,000 tons of TNT). The salt in the vicinity of the shotpoint has been contaminated by the Salmon event, but beyond 280-380 feet the condition of the rock approaches pre-shot status. ... Thus, by far the larger part of the salt stock of Tatum dome has not been affected by the Salmon explosion.

Following is a description (Rawson and others, 1966) of the cavity created in the salt stock of Tatum dome by the Salmon event; "...a nearly spherical cavity of radius 17.4±0.6 m [meters]. Radioactive melt injected into the

cracks was observed as far as 37 m from the shot point, and radioactivity increased above background as far as 64 m. The wall rock was highly microfractured and contained some macrofractures. The most broken portion of the rock surrounding the cavity was observed...39 to 50 m below shot point....It is concluded that the resulting cavity is stable...however, the material surrounding the cavity is less competent than it was before the shot, and the present strength and stress distribution of the rock are not known."

A series of hydrologic test wells was drilled under the auspices of the United States Geological Survey for the Atomic Energy Commission. These wells were drilled as part of the Public Safety Program, which required determination of the geologic and hydrologic conditions existing on and near the dome prior to the planned (at the time of the program) nuclear testing. Location coordinates for these wells are given for the Township and Range coordinate system when known. Location coordinates are also given for the Atomic Energy Commission (AEC) coordinate system, also called the Holmes and Narver coordinate system. This system has its origin at the common point of sections 11, 12, 13, and 14-T2N-R16W, which point has AEC coordinates 10,000 N & 10,000 E. Coordinates are also given for the Mississippi coordinate system, east zone, with an eight digit number including two decimal places. The Mississippi coordinate system, east zone, also known as the state plane coordinate system, is shown on U. S. G. S. topographic maps by a 10,000' grid.

The Project Dribble Project Manager's report (U. S. Atomic Energy Commission, 1966, NVO-24), on page 108, mentions fifteen Project 6.1 holes directed by Fenix & Scisson. No clarification is made as to their number, location, depth, or possible other names. No other reference has been found for Project 6.1 holes. It is not known whether they were drilled.

Well: U. S. Geological Survey/Atomic Energy Commission Hydrologic test well (HT) No. 1, Tatum Dome Area (earlier called Multiple Test Hole (MTH-1))

API well number: None

Location: Atomic Energy Commission coordinates 12,273 N and 12,759 E, or approximately 370' SE of center of Section 12-T2N-R16W; 539333.77N and 272677.86E (map no. 17)

Elevation: 315' GL (307' GL, Medley, 1972), 321' RT

Total depth: 2,616'

Reported formation tops: (U.S.G.S. log)

terrace deposits	0
Pascagoula and Hattiesburg	
clays undifferentiated	80'
Catahoula Sandstone	1,140'
Heterostegina zone	1,373'
Paynes Hammock and Chickasawhay	
Limestone undifferentiated	1,530'
Bucatunna Clay and middle member of Byram Formation	1,622'
Glendon Limestone Member	

Byram Formation and Marianna Limestone undifferentiated	1,743'
Red Bluff Clay	1,902'
Yazoo Clay	1,953'
Moodys Branch Formation	2,130'
Cockfield Formation	2,158'
Cook Mountain	2,240'
Cane River Formation	2,390'

Geophysical logs: Gamma ray-neutron, electric, micro and sonic logs.

Comments: Cored 1,391'-411', recovered 17.29'; cored 2,022'-42', recovered 1.1'; cored 2,374'-88', recovered 8.63'. Fifty-three sidewall cores were taken from 474'-2,414'. Four fresh water aquifers and one saline aquifer were tested and chemical analyses of water from each aquifer were made. Drilled 8/1961. Well HT No. 1-A (earlier called Observation Well 1) was drilled to total depth 1,089', 147' N and 264' W of HT No. 1 and was P&A 7/1971. Well HT No. 1-B (earlier called Observation Well 2) was drilled to total depth 889', 438' N and 785' W of HT No. 1 and was P&A 7/1971.

Completed: Converted for ground water monitoring program 9/1971.

Well: U. S. Geological Survey/Atomic Energy Commission Hydrologic Test Well (HT) No. 2, Tatum Dome Area (earlier called Multiple Test Hole 2 (MTH-2))

API well number: None

Location: Atomic Energy Commission coordinates 5,566 N and 5,680 E, or approximately 800' E and 500' N of SW/corner of Section 14-T2N-R16W; 532678.46N and 26556?.17 (map no. 18)

Elevation: 295' GL, 302' RT

Total depth: 2,622'

Reported formation tops: (U.S.G.S. log)
terrace deposits 0

Pascagoula and Hattiesburg clays undifferentiated	40'
Catahoula Sandstone	1,232'
Heterostegina zone	1,470'
Paynes Hammock and Chickasawhay Limestone undifferentiated	1,640'
Bucatanua Clay and middle member of Byram Formation	1,745'
Glendon Limestone Member of Byram Formation and Marianna Limestone undifferentiated	1,880'
Red Bluff Clay	2,067'
Yazoo Clay	2,120'
Moodys Branch Formation	2,258'
Cockfield Formation	2,320'
Cook Mountain Formation	2,414'
Cane River Formation	2,618'

Geophysical logs: Gamma ray-neutron, electric, micro and sonic logs.

Comments: Cored 1,474'-94', recovered 6.6'; cored 1,933'-53', recovered 5.7'; cored 2,440'-60', recovered 9.5'. Ninety-seven sidewall cores were taken from 341'-2,616'. Four fresh water aquifers and one saline aquifer were tested and chemical analyses of water from each aquifer were made. Utilized for injection disposal of radiation contaminated water, produced and recovered during the postshot re-entry drilling program, into aquifer 5. Drilled 8/1961. Well HT No. 2-A (earlier called Observation Well 3) was drilled to total depth 1,080', 120' S and 275' E of well HT No. 2, and was P&A 7/1971. Well HT No. 2-B (earlier called Observation Well 4) was drilled to total depth 1,005', 358' S and 174' W of well HT No. 2, and was P&A 7/1971. Well HT No. 2-C (earlier called Layne Central water well) was drilled to total depth 366', 6' N and 124' E of well HT No. 2, and was converted for ground water monitoring 3/1972. Well HT No. 2-M was drilled to total depth 2,650', 213' N and 212' E of well HT No. 2, and was configured for ground water monitoring 3/1972. At an annual inspection, perhaps after decommissioning, Well HT No. 2-M was found flowing at the surface; this started the state of Mississippi's investigations at Tatum Dome. The well has subsequently been sealed.

Completed: P&A 7/1971

A total of fourteen hydrologic test (HT) wells was drilled in the Tatum Dome area. These wells, including the #1 and #2 series wells detailed above, are listed below.

Well	Location	Total Depth	Elevation	Disposition
HT #1**	12,273 N AEC 12,579 E AEC 539333.77N* 272677.86E* 370' SE of center of Section 12	2,616'	315' GL 321' RT	ground water monitoring 9/1971
HT #1-A (also called Observation Well #1 (OB 1))	539481.17N* 272413.64E*	1,089'	281' GL	P&A 7/1971
HT #1-B (also called Observation Well #2 (OB 2))	539772.10N* 271892.23E*	889'	272' GL	P&A 7/1971
HT #2**	5,566 N AEC 5,680 E AEC 532678.46N* 26556?.17E* 800' E & 500' N of SW corner of Section 14	2,622'	295' GL	P&A 7/1971
HT #2-A (also called Observation Well #3 (OB 3))	532558.94N* 265831.41E*	1,080'	292' GL	P&A 7/1971

HT #2-B (also called Observation Well #4 (OB 4))				
	532320.84N*	1,005'	290' GL	P&A 7/1971
	266382.18E*			
HT #2-C	532685.80N*	366'	294' GL	ground water monitoring
	265680.19E*			
HT #2-M	532891.??N*	2,650'	318' GL	ground water monitoring
	26768??.??E*			
HT #3	535797.15N*	1,063'	267' GL	P&A 7/1971
	268733.82E*			
HT #4	535778.56N*	495'	266' GL	ground water monitoring
	268831.97E*			
HT #5	535740.02N*	680'	264' GL	ground water monitoring
	268799.26E*			
HT #6	535787.74N*	812'	266' GL	P&A 7/1971
	268783.06E*			
HT #7	535749.98N*	882'	265' GL	P&A 7/1971
	268750.51E*			

MTH-3 (Multiple Test Hole) drilled by Humble Oil & Refining Company as the #1 Hibernia Bank & Trust Company

AEC = Atomic Energy Coordinate system

* Mississippi Coordinate system

** well shown on base map

A series of exploratory holes was drilled on Tatum Dome to determine the configuration of the dome. The holes were also used to determine depth, altitude and thickness of various lithologic units, as well as to correlate water-bearing strata with aquifers contiguous to the dome. These wells were drilled by the U. S. Geological Survey for the U. S. Atomic Energy Commission (AEC).

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 1 (E-1)

API well number: None

Location: Atomic Energy Commission coordinates 9,141 N and 7,606 E; 536241.05N and 267506.64E; 951' S and 2,394' W of NE/corner of Section 14-T2N-R16W (map no. 19)

Elevation: 267' GL, 281' RT

Total depth: 4,517'

Reported formation tops: (U.S.G.S. log)

Pascagoula and Hattiesburg	
clays undifferentiated	40'
Catahoula Sandstone	795'
cap rock limestone	950'
cap rock anhydrite	1,070'
salt	1,510'

Geophysical logs: A series of wire line logs was run as follows: Widco single-point electric log from surface-375'; Lane wells induction-electric log 375'-1,427', focused log 375'-4,496', gamma ray log surface-4,490', neutron log surface-4,503', acoustilog 375'-4,500'; Sperry-Sun directional survey from surface-4,500'.

Comments: Upon completion of drilling, 4.5" casing was set at 952' with the intention of converting the well to a hydro-logic observation well in the limestone cap rock. No cores were reported. Drilling was completed by 9/1961.

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 2 (E-2)

API well number: None

Location: Atomic Energy Commission coordinates 8,500 N and 8,777 E; 535590.86N and 268672.29E; 1,500' S and 1,223' W of NE/corner of Section 14-T2N-R16W (map no. 20)

Elevation: 259' GL, 270' RT

Total depth: 1,690'

Reported formation tops: (U.S.G.S. log)

Catahoula Sandstone	820'
cap rock	915'
salt (interpreted from drill time)	1,495'

Geophysical logs: Wire line logs were run as follows: Widco single-point electric log from 20'-403'; Lane Wells induction-electric log 390'-938' and 390'-1,015', temperature and cement log surface-1,053', and cement log surface-1,053'. Sperry-Sun directional surveys were run from 50'-1,039'.

Comments: Extreme drilling difficulties (lost circulation) were encountered and hole E-2 was abandoned at a depth of 1,690'. The rig was skidded approximately 27' eastward and Exploratory Hole 7 was drilled as a substitute. After the failure to drill below 1,690' in Hole E-2, an attempt, which reached 1,283', was made to whipstock around the difficulty. A total of thirty-one squeeze operations were tried between 1,071' and 1,690', where the well was abandoned. Drilling was completed 8/1961.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 3 (E-3)

API well number: None

Location: Atomic Energy Commission coordinates 9,321 N and 10,932 E; 536397.96N and 270831.39E; 679' S and 932' E of NW/corner of Section 13-T2N-R16W (map no. 21)

Elevation: 250' GL, 264' RT

Total depth: 1,549'

Reported formation tops: (U.S.G.S. log)

Pascagoula and Hattiesburg	
clays undifferentiated	0
Catahoula Sandstone	845'
cap rock	960'
anhydrite	1,089'
salt (interpreted from drill time)	1,493'

Geophysical logs: Wire line logs were run in hole E-3 as follows: Widco single-point electric log from 22'-382'; Lane Wells induction-electric log 374-1,014'. Sperry-Sun directional surveys were run from surface-1,012'.

Comments: Extreme drilling difficulties (lost circulation) were encountered and Hole E-3 was abandoned at a depth of 1,549'. The rig was skidded approximately 86' eastward and Hole E-9 was drilled as a substitute. After the failure to drill below 1,481' in hole E-3, two attempts, which reached 1,485' and 1,549', were made to whipstock around the difficulty. The following cores were attempted: 1,378'-93', no recovery;

1,391'-413', recovered 0.5'; 1,413'-20', no recovery; 1,417'-23', (these overlapping depths are from Armstrong et al. (1962), and possibly explain why only 3' was measured), recovered a reported 5', but only 3' measured in laboratory; 1,423'-85' recovered 11.6'. Drilling was completed by 8/1961.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 4 (E-4)

API well number: None

Location: Atomic Energy Commission coordinates 10,838 N and 10,512 E; 537915.19N and 270425.46E; 838' N and 512' E of SW/corner of Section 12-T2N-R16W (map no. 22)

Elevation: 246' GL, 258' RT

Total depth: 4,524'

Reported formation tops: (U.S.G.S. log)

terrace deposits	0
Pascagoula and Hattiesburg	
clays undifferentiated	86'
Catahoula Sandstone	770'
cap rock limestone	952'
cap rock anhydrite	1,085'
salt	1,488'

Geophysical logs: Wire line logs were run in hole E-4 as follows: Widco single-point electric log surface-391'; Lane Wells induction-electric log 385'-1,443', focused log 385'-4,516', gamma ray log surface-4,511', neutron log surface-4,523', acoustilog 385'-4,524'; and Sperry-Sun directional survey surface-4,524'.

Comments: No cores were reported. Numerous lost circulation zones were encountered while drilling cap rock. Drilling was completed by 10/1961. Instruments were cemented to 108' in preparation for the Salmon Nuclear Event during 1964.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 5 (E-5)

API well number: None

Location: Atomic Energy Commission coordinates 10,778 N and 7,249 E; 537878.68N and 267161.52E; 778' N and 2,751' W of SE/corner of Section 11-T2N-R16W (map no. 23)

Elevation: 252' GL, 260' RT

Total depth: 3,521'

Reported formation tops: (U.S.G.S. log)

Pascagoula and Hattiesburg	
clays undifferentiated	0
Catahoula Sandstone	802'
cap rock limestone	961'
cap rock anhydrite	1,056'
salt	1,494'

Geophysical logs: Wire line logs were run in hole E-5 as follows: Widco single-point electric log from 20'-358'; Lane Wells induction-electric log 383'-1,016', focused log 944'-3,518', gamma ray log surface-3,508', neutron log surface-3,520', acoustilog 938'-3,518'; and Sperry-Sun directional survey surface-3,500'.

Comments: No cores were reported. Numerous lost circulation zones were encountered while drilling cap rock. Drilling was completed by 10/1961.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 6 (E-6)

API well number: None

Location: Atomic Energy Commission coordinates 10,960 N and 8,820 E; 538049.74N and 268734.17E; 960' N and 1,180' W of SE/corner of Section 11-T2N-R16W (map no. 24)

Elevation: 240' GL, 248' RT

Total depth: 2,999'

Reported formation tops: (U.S.G.S. logs)

Pascagoula and Hattiesburg	
clays undifferentiated	0
Catahoula Sandstone	796'
cap rock limestone	878'
cap rock anhydrite	1,030'
salt	1,480'

Geophysical logs: Wire line logs were run in hole E-6 as follows: Widco single-point electric log surface-385'; Lane Wells induction-electric log 365'-994' and 999'-1,407', focused log 998'-2,250', gamma ray log surface-2,238', neutron log surface-2,250', acoustilog 998'-2,250', caliper log 998'-2,250'; and Sperry-Sun directional survey surface-2,600'.

Comments: No cores were reported. Numerous lost circulation zones and caving sands were encountered while drilling. Drilling was completed by 10/1961.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 7 (E-7)

API well number: None

Location: Approximately 27' east of Atomic Energy Commission coordinates 8,500 N and 8,777 E and 1,500' S and 1,223' W of NE/corner of Section 14-T2N-R16W; 535596.96N and 268698.26E (map no. 25)

Elevation: 260' GL, 270' RT

Total depth: 3,553'

Reported formation tops: (U.S.G.S. logs)

Pascagoula and Hattiesburg	
clays undifferentiated	0
Catahoula Sandstone	823'
cap rock limestone	905'
cap rock anhydrite	1,250'(?)
salt	1,495'

Geophysical logs: Wire line logs were run in hole E-7 as follows: induction-electric log 26'-385' and 368'-941', focused log (behind casing) surface-1,495', gamma ray log 183'-1,570', neutron log surface-1,582', acoustilog 1,512'-3,552'; and Sperry-Sun directional survey 50'-3,545'.

Comments: Numerous lost circulation zones were encountered while drilling. Whole cores were taken as follows: 1,104'-12', recovered 1'; 1,020'-101', recovered 4.5'; 1,130'-46', recovered 3'; 1,146'-56', recovered 2.5'. Drilling was

completed by 10/1961. In 1961 the well was reported as plugged and abandoned (Armstrong et al.), but it was also reported as having been converted for use as a ground water monitoring well (Medley, 1972).

Completed: Uncertain

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 9 (E-9)

API well number: None

Location: Atomic Energy Commission coordinates 9,317 N and 11,015 E, approximately 86' eastward from 679' S and 932' E of NW/corner of Section 13-T2N-R16W; 536392.73N and 270913.18E (map no. 26)

Elevation: 248' GL, 262' RT

Total depth: 3,525'

Reported formation tops: (U.S.G.S. logs)

Pascagoula and Hattiesburg

clays undifferentiated	0
Catahoula Sandstone	855'
cap rock limestone	990'
cap rock anhydrite	1,089'(?)
salt (drillers log)	1,494'

Geophysical logs: Lane Wells wire line logs were run in hole E-9 as follows: induction-electric log 30'-997', gamma ray log 14'-3,508', neutron log 14'-3,510', acoustilog 1,455'-3,512', focused log; and Sperry-Sun directional survey 50'-3,500'.

Comments: Numerous lost circulation zones were encountered while drilling. Whole cores were taken as follows: 1,792'-821', recovered 29'; 2,500'-30', recovered 30'. Well E-9 was drilled by 10/1961.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 11 (E-11)

API well number: None

Location: 536857.20N and 267586.27E (map no. 27)

Elevation: 277' GL

Total depth: 3,540'

Reported formation tops: (Medley)

cap rock	950'
salt	1,514'

Geophysical logs:

Comments:

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc./Fenix and Scisson, Inc., Petroleum Consultants) Exploratory Hole 12 (E-12)

API well number: None

Location: 537331.52N and 267624.23E (map no. 28)

Elevation: 282' GL

Total depth: 2,882'?

Reported formation tops: (Medley)

cap rock	930'
salt	1,510'

Geophysical logs:

Comments: High explosive shot at 2,882'.

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 13 (E-13)

API well number: None

Location: 537047.75N and 268098.71E (map no. 29)

Elevation: 271' GL

Total depth: 2,871'?

Reported formation tops: (Medley)

cap rock	930'
salt	1,501'

Geophysical logs:

Comments: High explosive shot at 2,871'.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 14 (E-14)

API well number: None

Location: 537199.12N and 269006.53E (map no. 30)

Elevation: 242' GL

Total depth: 4,005'

Reported formation tops: (Medley)

cap rock	896'
salt	1,475'

Geophysical logs:

Comments: Used as an instrumentation hole for the Salmon nuclear event. Instruments were cemented in the well bore at 3,900'. During grouting of the instruments, a rupture of the grouting line caused grout to plug the hole from the collar down to a few hundred feet above the top instrument. Subsequently, Hole 14B (for Bottom) was intentionally drilled directionally for a grout inlet and intersected Hole E-14 at 3,953'. Hole 14T (for Top) was intentionally drilled directionally for a grout return opening and intersected Hole E-14 at 1,953'. Holes 14B and 14T apparently were unsuccessful, as Hole 14C was later drilled and the instruments were reported satisfactorily grouted.

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc./Fenix & Scisson, Inc., Petroleum Consultants) Exploratory Hole 14B (E-14B)

API well number: None

Location: 537124.66N and 269034.59E

Elevation: 242' GL

Total depth: 3,959'

Reported formation tops: (Medley)

cap rock	898'
salt	1,477'

Geophysical logs:

Comments: See Hole E-14 comments. Drilled to total depth 3,700' and then washed out to approximate total depth 3,959'

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 14C (E-14C)

API well number: None

Location: 537292.62N and 268993.37E

Elevation: 242' GL

Total depth: 4,002'

Reported formation tops: (Medley)

cap rock 887'

salt 1,467'

Geophysical logs:

Comments: See Hole E-14 comments.

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc./Fenix & Scisson, Inc., Petroleum Consultants) Exploratory Hole 14T (E-14T)

API well number: None

Location: 537199.69N and 268985.42E

Elevation: 242' GL

Total depth: 1,953'

Reported formation tops: (Medley)

cap rock 886'

salt 1,471'

Geophysical logs:

Comments: See Hole E-14 comments.

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Exploratory Hole 15 (E-15)

API well number: None

Location: 537415.18N and 269491.49E (map no. 31)

Elevation: 241' GL

Total depth: 2,550'

Reported formation tops: (Medley)

cap rock 879'

salt 1,469'

Geophysical logs:

Comments: Instruments were cemented in the well bore during 1964, in preparation for the Salmon nuclear event.

Completed: P&A 1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc./Fenix & Scisson, Inc., Petroleum Consultants) Exploratory Hole 16 (E-16)

API well number: None

Location: 537414.07N and 269592.20E

Elevation: 241' GL

Total depth: 893'

Reported formation tops: (Medley)

cap rock 876'

Geophysical logs:

Comments: Instruments were cemented in the well bore, at 876', during 1964, in preparation for the Salmon nuclear event.

Completed: 7/1964

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) VELA Uniform Hole (Core Hole) no. WP-1

API well number: None

Location: 167' N and 1,959' W of SE/corner of Section 11-T2N-R16W; Atomic Energy Commission coordinates 10,167 N and 8,041 E; 537262.64N and 267948.87E (map no. 32)

Elevation: 271' GL, 279' RT

Total depth: 3,509'

Reported formation tops: (U.S.G.S. logs and cores)

Pascagoula and Hattiesburg

clays undifferentiated 0

Catahoula Sandstone 680'

cap rock limestone 929'

cap rock gypsum 1,048'

cap rock anhydrite 1,054'

salt 1,509'

Geophysical logs: Geophysical logs were run as follows: electrical (Widco/U.S.G.S.) 0-200'; Schlumberger electrical 206'-1,435', Gamma Ray-Neutron 20'-2,712', Sonic 206'-2,708, Caliper 206'-2,501', Temperature 20'-1,447' and 1,300'-2,706', Directional 250'-2,450'; Sperry-Sun Gyro-Deviation Directional 0-3,502'.

Comments: Top of cap rock and salt also reported at 898' and 1,498', respectively (Medley). Cored continuously from 33'-2,713' except for 1,123'-58', 1,286'-311', 1,447'-74', and 2,331'-32' (161 cores). Overall core recovery was reported as poor. A 'mud log' was made from 16'-3,510' by Hycalog, and a lithologic log from 33'-2,706' was made by the U. S. G. S. The hole was spudded February 4, 1961 and was completed June 28, 1961.

Completed: P&A 8/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) VELA Uniform Hole (Core Hole) no. WP-4

API well number: None

Location: 536303.53N and 269173.19E (map no. 33)

Elevation: 244' GL, 252' RT

Total depth: 3,499'

Reported formation tops: (Medley)

cap rock 926'

salt 1,476'

Geophysical logs:

Comments: Instruments were placed in the well at 2,706'.

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc./Fenix & Scisson, Inc., Petroleum Consultants) Hole no. Station 1A

API well number: None

Location: 537357.91N and 269541.55E

Elevation: 242' GL

Total depth: 2,802'

Reported formation tops: (Medley)

Pascagoula and Hattiesburg
formations undifferentiated 0
Catahoula Sandstone 692'
cap rock 875'
cap rock anhydrite 1,018'
salt 1,470'

Geophysical logs:

Comments: Hole for placement of nuclear device. Ground zero monument placed at surface.

Completed: P&A 2/1972

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc./Fenix & Scisson, Inc., Petroleum Consultants) Hole no. Station 1

API well number: None

Location: 537327.81N and 269541.27E

Elevation: 242' GL

Total depth: 1,501'

Reported formation tops: (Medley)

cap rock 876'
salt 1,474'

Geophysical logs:

Comments: Abandoned in 9/1963 because the method of construction would not maintain the required dry hole. Although the 1,501' depth was about 25' into the salt, water continued to enter around the bottom of the casing. Efforts to seal off the water were conducted from 4/26/1963 to 9/30/1963.

Completed: P&A 9/1963

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Hole no. Station 3 Access

API well number: None

Location: 537273.63N and 267593.98E

Elevation: 283' GL

Total depth: 1,077'

Reported formation tops: (Medley)

cap rock 910'

Geophysical logs:

Comments: 7/1/1963, discontinued work on hole after 70" I. D. casing parted at 665' and 743' and two other unspecified depths.

Completed: P&A 3/1972

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc./Fenix & Scisson, Inc., Petroleum Consultants) Hole no. Station 3 Vent

API well number: None

Location: 537181.09N and 267544.20E

Elevation: 284' GL

Total depth: 2,087'

Reported formation tops: (Medley)

cap rock 910'
salt 1,509'

Geophysical logs:

Comments: Eighteen days after completion on 11/5/1963, the seal gave way and the hole filled with water to 310'. The entire Station 3 contract was cancelled 12/1963.

Completed: P&A 3/1972

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Hole no. Station 4

API well number: None

Location: 536278.54N and 269167.48E

Elevation: 248' GL

Total depth: 2,740'

Reported formation tops: (Medley)

cap rock 926'
salt 1,480'

Geophysical logs:

Comments: Used for the calibration shot for the Sterling nuclear event.

Completed: P&A 7/1971

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Post Shot (P.S.) Hole no. 1

API well number: None

Location: 5373365.20N and 269536.34E

Elevation: 242' GL

Total depth: 2,908'

Reported formation tops: (Medley)

cap rock 879'
salt 1,469'

Geophysical logs: A suite of logs was run from below 2,800' to base of surface casing.

Comments: Instruments were placed at the cavity roof in preparation for the Sterling nuclear event during late 1966. Top of cavity is in salt at 2,660' and the bottom at 2,747'. Three cores were cut from 2,656'-60.5'. The floor of the cavity was cored to 2,874'. Poured concrete slab for monument at surface.

Completed: P&A 3/1972

Well: U. S. Geological Survey/Atomic Energy Commission (Holmes and Narver, Inc.) Post Shot (P.S.) Hole no. 2

API well number: None

Location: 537462.00N and 269536.96E

Elevation: 241' GL

Total depth: 3,024'

Reported formation tops: (Medley)

cap rock 879'
salt 1,471'

Geophysical logs: A suite of logs was run from 3,024' to base of surface casing.

Comments: Intended to pass close to (within 50'), but not intersect, the cavity. The hole was cored from 2,113'-3,024' with excellent recovery. After geophysical logs were run, the hole was whipstocked at 2,237' so as to penetrate the side of the cavity. This sidetrack hole was cored at intervals from 2,328' to cavity penetration at 2,687.5' to recover both oriented and conventional cores. Instruments were placed at the cavity roof in preparation for the Sterling nuclear event during late 1966.

Completed: P&A 3/1970

A long-term hydrologic monitoring program specifically designed for the Tatum Dome site was initiated in April 1972. This program indicated background concentrations of tritium in surface water and in the principal aquifers. Tritium in above

background concentrations was found in the Half Moon Creek overflow pond. Extensive studies concluded the tritium was residual from the surface cleanup of the site, and not the result of any upward migration of radioactivity from the cavity of the nuclear detonations within the salt dome. These studies involved the augering of 171 bores, ranging from 2'-12' in depth, to the water table on 25', 50' and 100' grids over different parts of the site. After the contaminated areas were defined, eleven additional holes were augered into the water table. Eight of these were at locations to surround the contaminated area, two were in the contaminated area, and one was down gradient from disposal pits for drill cuttings and fluid from a newly drilled hole, Post shot Hole No. 3. These eleven holes were designated Hydrologic Monitoring Holes (HMH) 1-11. Post shot Hole No. 3 was designed to determine tritium concentration with depth, and was drilled at a location with the highest observed tritium concentration to a depth of 142'.

In 1978, the U. S. Department of Energy, Nevada Operations Office was asked to provide proof that radiological contamination was not adversely affecting water quality in the aquifers over Tatum Dome. A program of radiological and hydrological research was developed involving drilling and completing wells in each aquifer above the salt dome. Overlying the dome and the cap rock aquifer (which is saline and present only over the dome) are five fresh water aquifers. In ascending order, these are aquifer 3 in the Catahoula Sandstone; aquifers 2, 1, and the Local Aquifer in the Pascagoula and Hattiesburg formations undifferentiated; and the Surficial Aquifer. Saline aquifer 5, in the Cook Mountain Limestone, and brackish aquifer 4, in the Vicksburg Group, underlie the fresh water aquifers and are interrupted by the salt dome. In the Tatum Dome area, a few domestic wells produce from aquifer 2. The deeper aquifers are used for municipal and industrial use outside the immediate domal area. The Surficial Aquifer, in sands and gravels of the Citronelle Formation, is used for stock and domestic wells around Tatum Dome. All aquifers, including the Surficial Aquifer which was known to be contaminated by tritium, were tested. Low tritium concentrations were found in the Local Aquifer, the next aquifer below the Surficial Aquifer, about 150'-200' below ground level. No radioactivity was found in any of the other aquifers above Tatum Dome. This program involved the drilling and testing of seven wells. Well HT-2m was drilled as a replacement for well HT-2, 300' north-east of Well HT-2. The HM series of wells was drilled in a circular array around and about 20' from the ground zero monument, except for well HM-S which was drilled 11' from the monument. Data for this series of wells are as follows:

Well	Aquifer	Total Depth
HM-S	Surficial	30'
HM-L	Local	204'
HM-1	1	415'
HM-2a	2a	537'
HM-2b	2b	700'
HM-3	3	875'
HT-2m	4 & 5	>1,600'

During 1981, the Mississippi Bureau of Geology (former name of the Office of Geology) conducted a drilling and hydrological testing program at Tatum Dome to acquire additional information on the Local Aquifer. Three wells were drilled for this program: Observation wells (OW) OW-1 and OW-2 and Monitor Well HM-L2. Data for these wells are as follows:

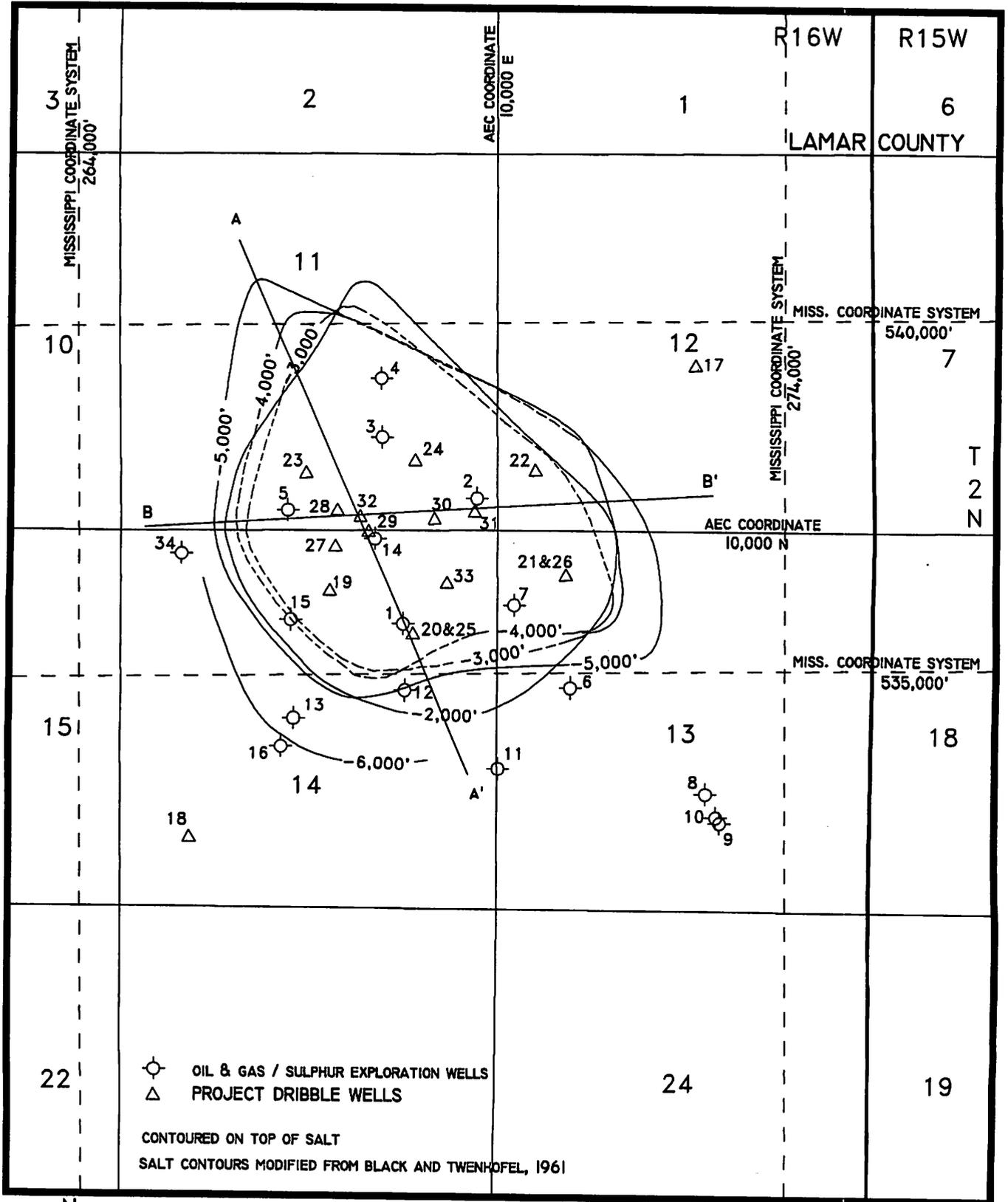
Well	Location	Elevation	Total Depth
OW-1	537878.1 N	252' GL	185'
	267101.5 E		
OW-2	535750 N	267' GL	210'
	268350 E		
HM-L2	537787.7 N	252' GL	200'
	267221.5 E		

The U. S. Department of Energy purchased the Tatum Dome site in early 1995, with the intent of drilling additional monitoring wells and conducting cleanup operations, if necessary. At the time of the land purchase, the D. O. E. anticipated any waste requiring cleanup to be materials left from the drilling of the earlier wells.

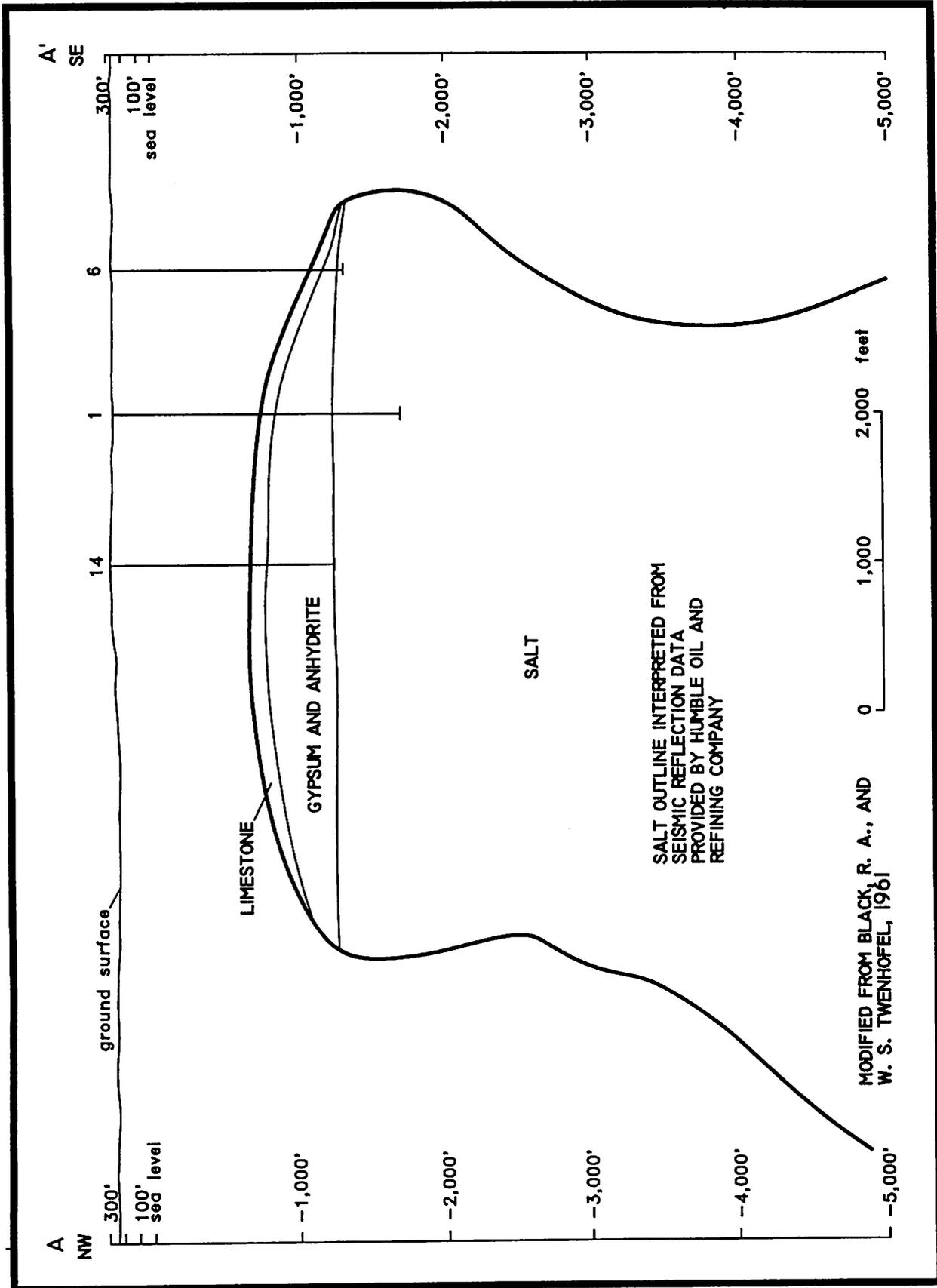
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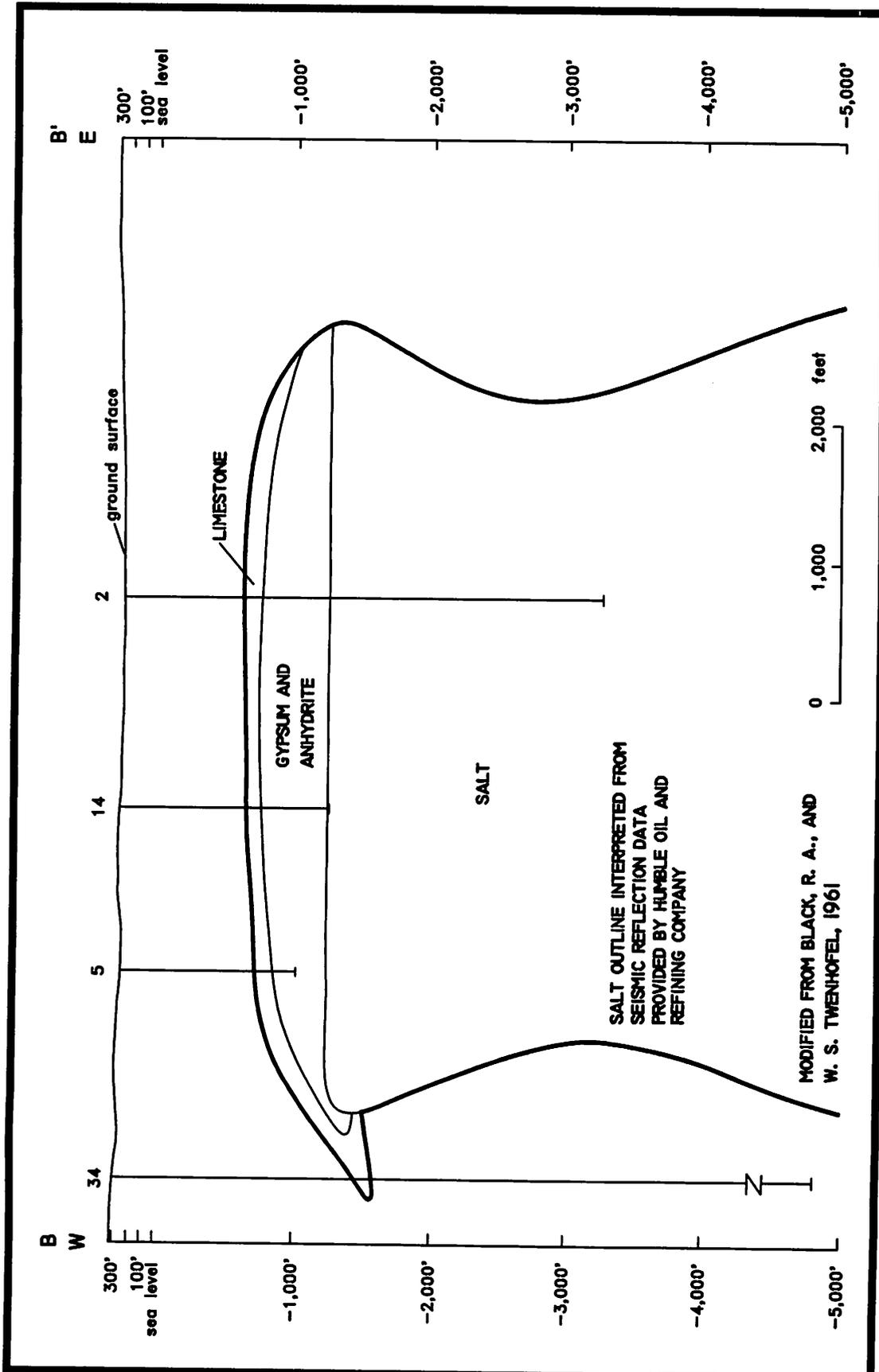


TATUM DOME
FIGURE 145



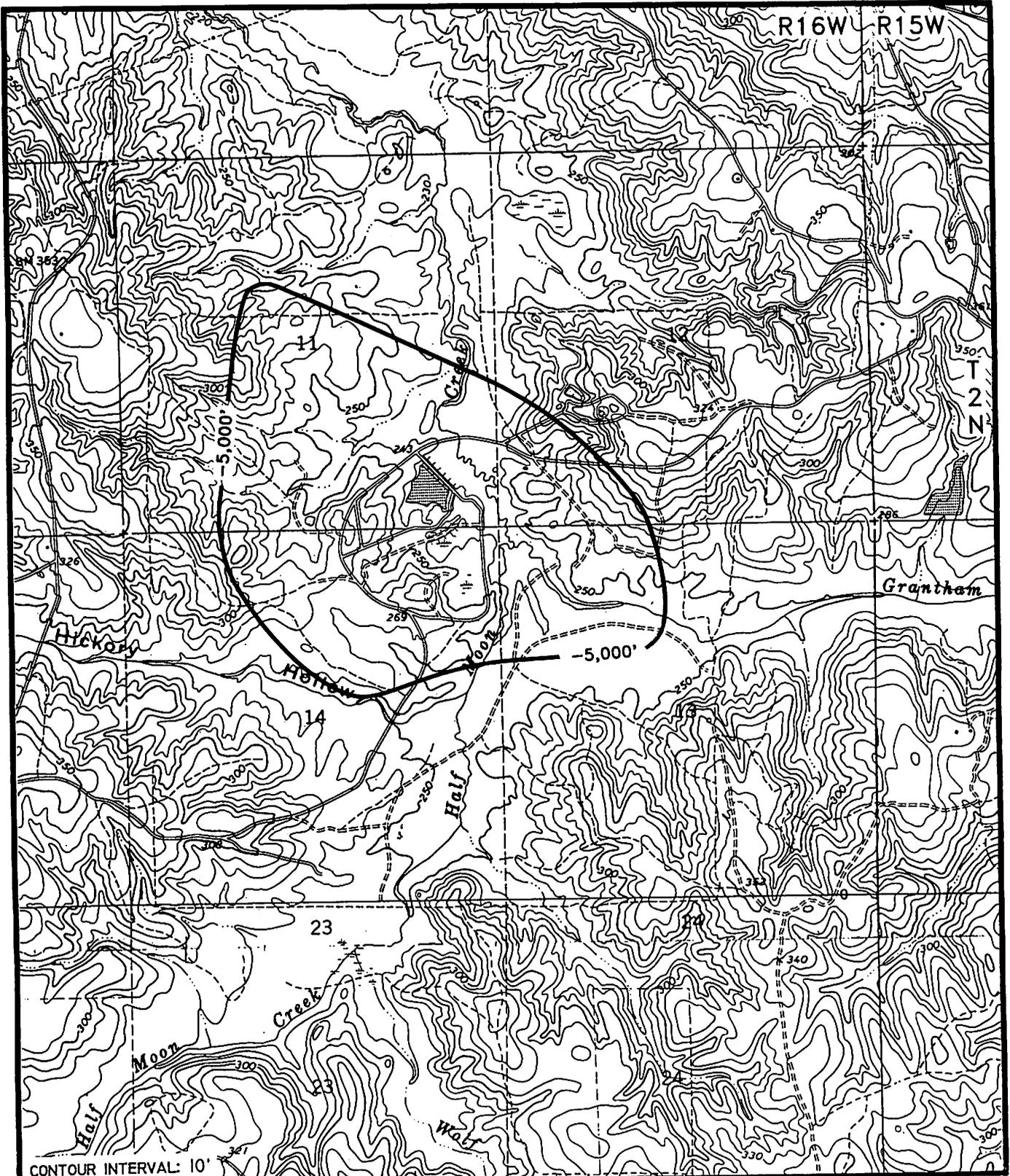
TATUM SALT DOME
 LAMAR COUNTY, MISSISSIPPI
 SECTION A -A'

FIGURE 146

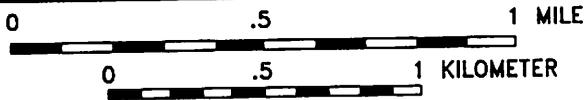


TATUM SALT DOME
LAMAR COUNTY, MISSISSIPPI
SECTION B-B'

FIGURE 147

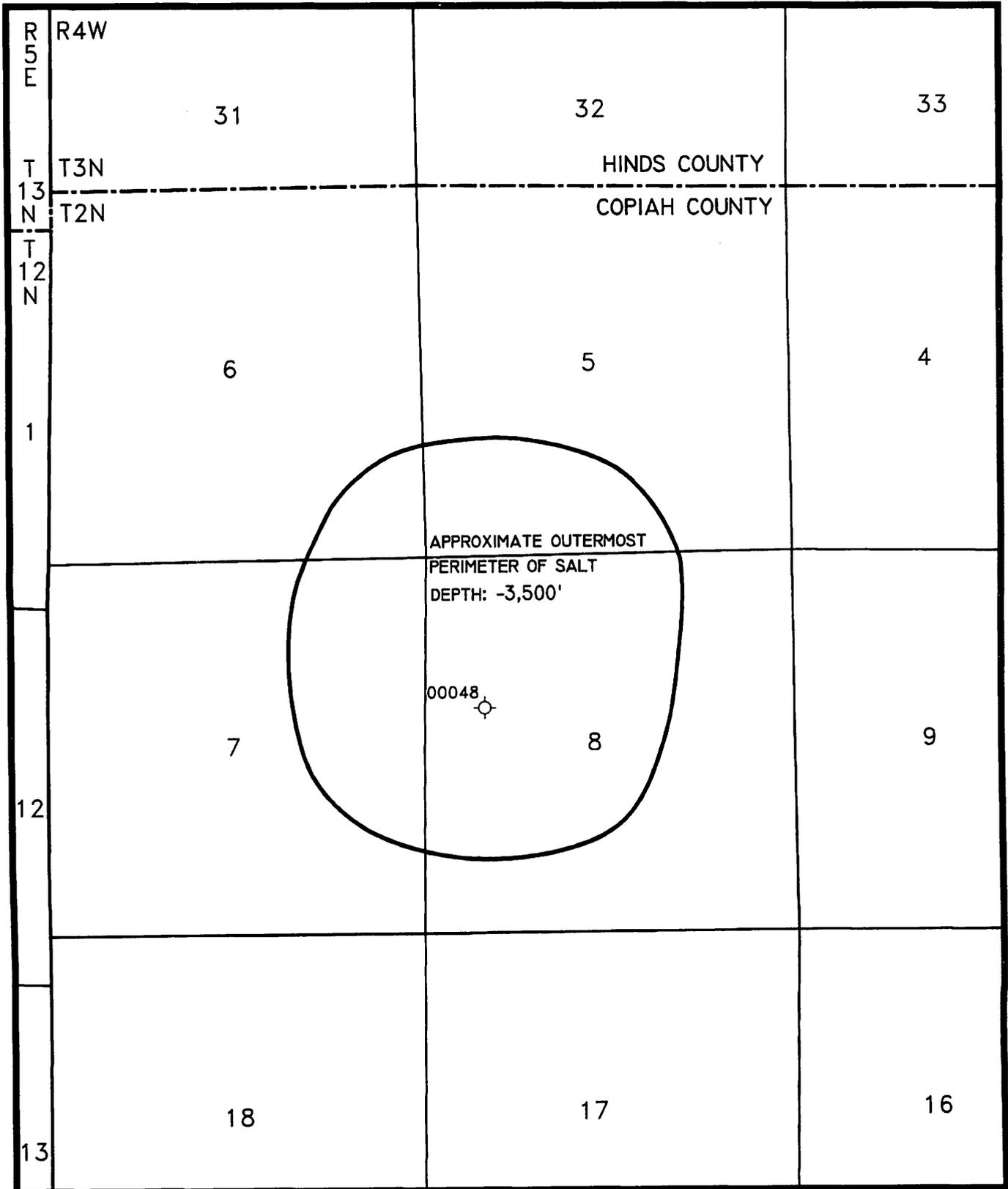


CONTOUR INTERVAL: 10'



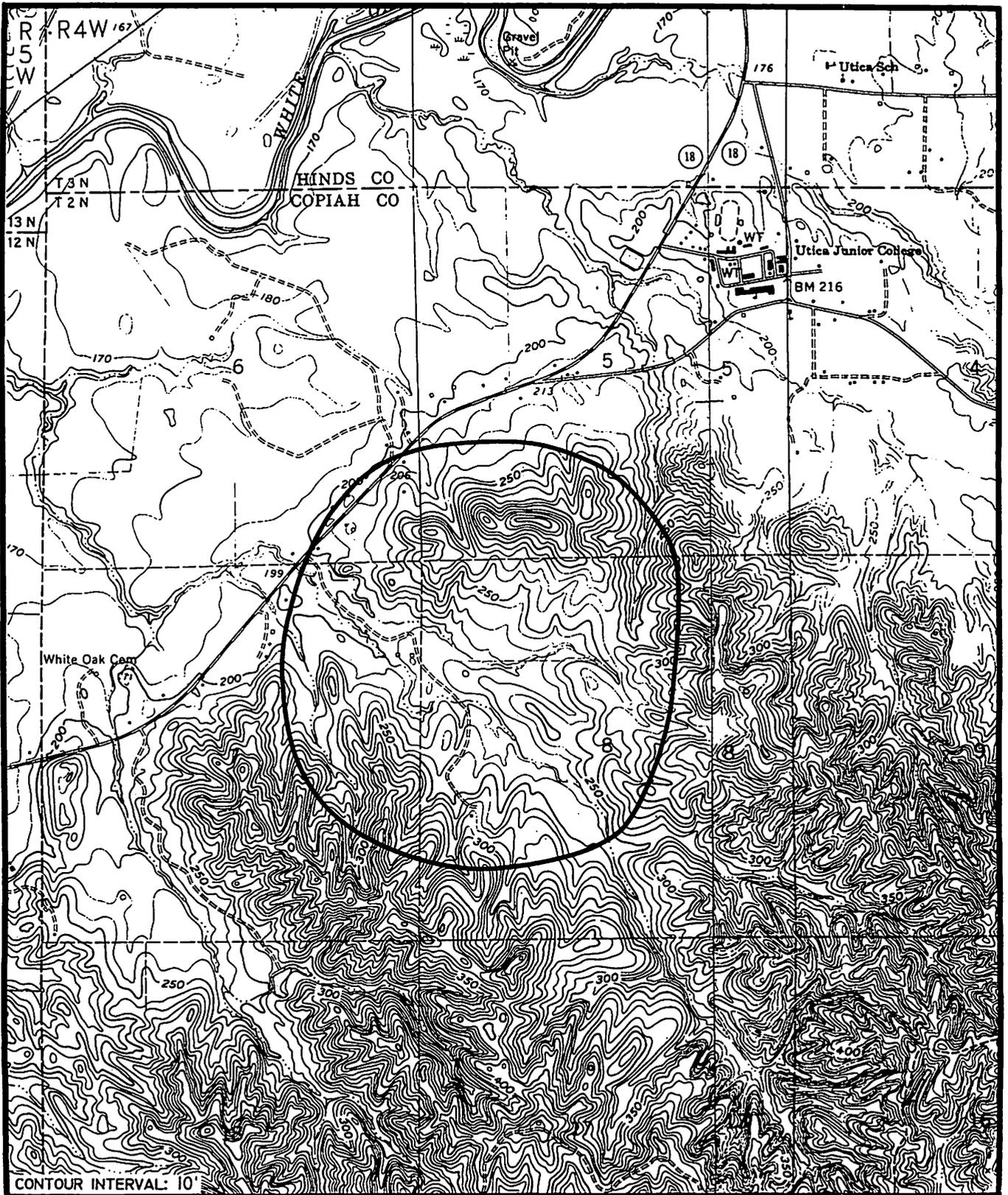
TATUM DOME

FIGURE 148

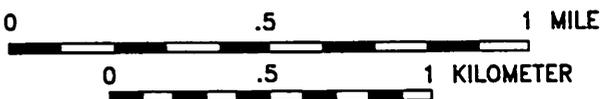


UTICA DOME

FIGURE 149



CONTOUR INTERVAL: 10'



UTICA DOME

FIGURE 150

VICKSBURG SALT DOME

GENERAL DATA

Location: Sections 14,15,18-T16N-R3E, Warren County, Mississippi

USGS topographic map(s): Vicksburg West, Long Lake

Geophysical data: Mellen cites a "gravity minimum." There are no data available to the authors.

Estimated size and shape: Approximately one mile in diameter, nearly circular

Estimated base fresh water (10,000 ppm): -3,200'

Economic use: None to date

Shallowest known cap rock: 4,356' (The California Company No. 1 Mattie H. Johnston)

Shallowest known salt: 4,386' (The California Company No. 1 Mattie H. Johnston)

Oldest formation penetrated within one mile of dome: Probable Lower Cretaceous Sligo Formation (Kerr-McGee Corporation No. 1 Kings Point Farms)

Nearest oil or gas production: Vicksburg Field, 3 miles north, produces from the Lower Cretaceous Rodessa Formation.

DRILLING HISTORY

Discovery well: The California Company No. 1 Mattie H. Johnston

API well number: 23-149-00010

Location: 2,015' FSL and 668' FEL of Section 15-T16N-R3E

Elevation: 106' DF (on log heading and on bottom of log of original hole), 113' DF (on bottom of log of sidetrack hole)

Total depth: 4,401' original hole, 4,876' sidetrack hole

Reported formation tops: (scout ticket, log) original hole

Moodys Branch	686'
Yegua	708'
Sparta	1,475'
Zilpha	2,439'
Winona	2,650'
Wilcox	2,930'
cap rock	4,356'
salt	4,386'

sidetrack hole (this author)

Zilpha	2,427'
Winona	2,640'
Wilcox	2,940'
cap rock	4,721' (Mellen)

Geophysical logs: Schlumberger Composite Log 170'-

4,401' (original hole), 2,035'-4,723' (sidetrack hole)

Comments: "was drilled to an initial depth of 4,401'. Cap rock was found at 4,356', salt at 4,386'. Hole was then plugged back to 2,100', drilled out to 2,150', and whipstock set to divert the hole southwest. Hole was drilled to 4,876' in sidetrack, logged to 4,723'. (At 4,804' hole was 384' S and 1,456' W of surface.) At depth 4,723' vertical correction was 534' yielding t.v.d. of 4,189'. Cap rock was reported at 4,721' (t.v.d. of 4,187') in the sidetrack" (Mellen). Whole cores were taken in the original hole as follows: 2,861'-943' (8 cores), all no show; 3,676'-81', no show; 4,241'-75' (4 cores), occasional zones of sand with faint odor and scattered zones of specks of straw-yellow fluorescence from 4,241'-51.5', otherwise no show; and 4,287'-97 (2 cores), no show. Forty-five sidewall cores were taken in the original hole from 3,102'-4,242' with shows of fluorescence at 4,088', 4,090', 4,092', 4,095', 4,097', 4,234', and 4,237'. Whole cores were taken in the sidetrack hole as follows: 4,030'-40' (2 cores), both no show; 4,389'-99' (2 cores), both no show; 4,558'-81' (2 cores), both no show; 4,667'-72', no show; and 4,723'-875' (12 cores), all no show. Four sidewall cores were taken in the sidetrack hole from 4,645'-51' with fluorescence, slight odor and CCl₄ cut at 4,646'.

Completed: D&A 9/1948

Additional drilling:

Well: Kerr-McGee Corporation No. 1 Kings Point Farms

API well number: 23-149-20055

Location: 2,770' FNL and 330' FEL of Section 16-T16N-R3E

Elevation: 89' GL, 117' DF, 118' KB

Total depth: 4,888'? original hole, 10,066' sidetrack hole

Reported formation tops:

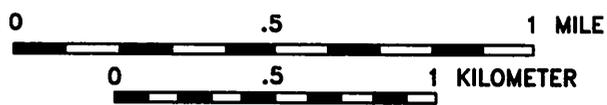
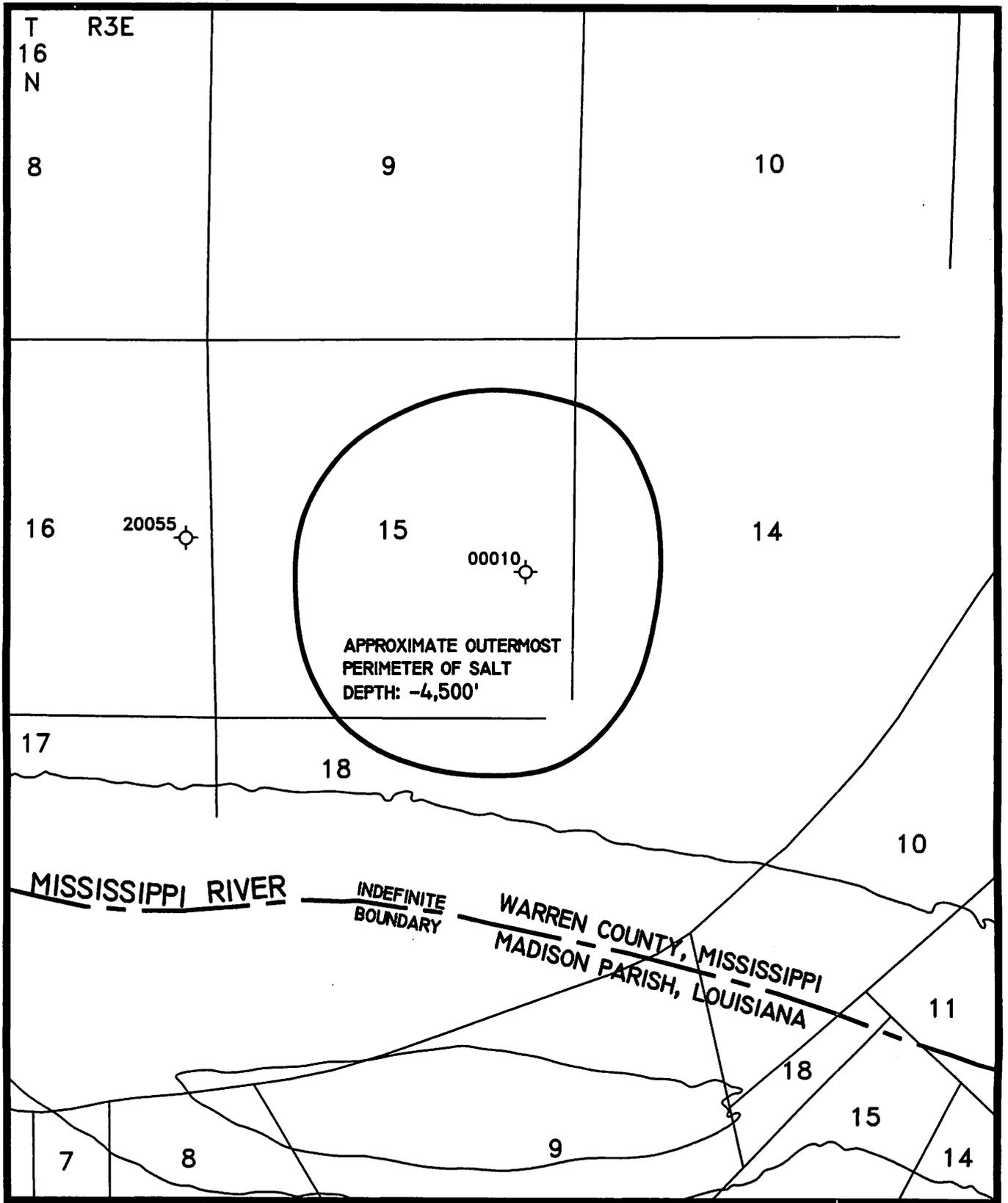
Geophysical logs: Western Atlas Induction Electrolog 3,500'-5,034', Dual Induction Focused Log, BHC Acoustilog, Gamma Ray 84'-3,588'

Comments: Drilling problems were encountered at 4,888'. Junk was lost in the hole which could not be recovered. Hole was plugged back to 4,182' and sidetracked. The scout ticket reports the well in the Lower Cretaceous Sligo Formation at total depth.

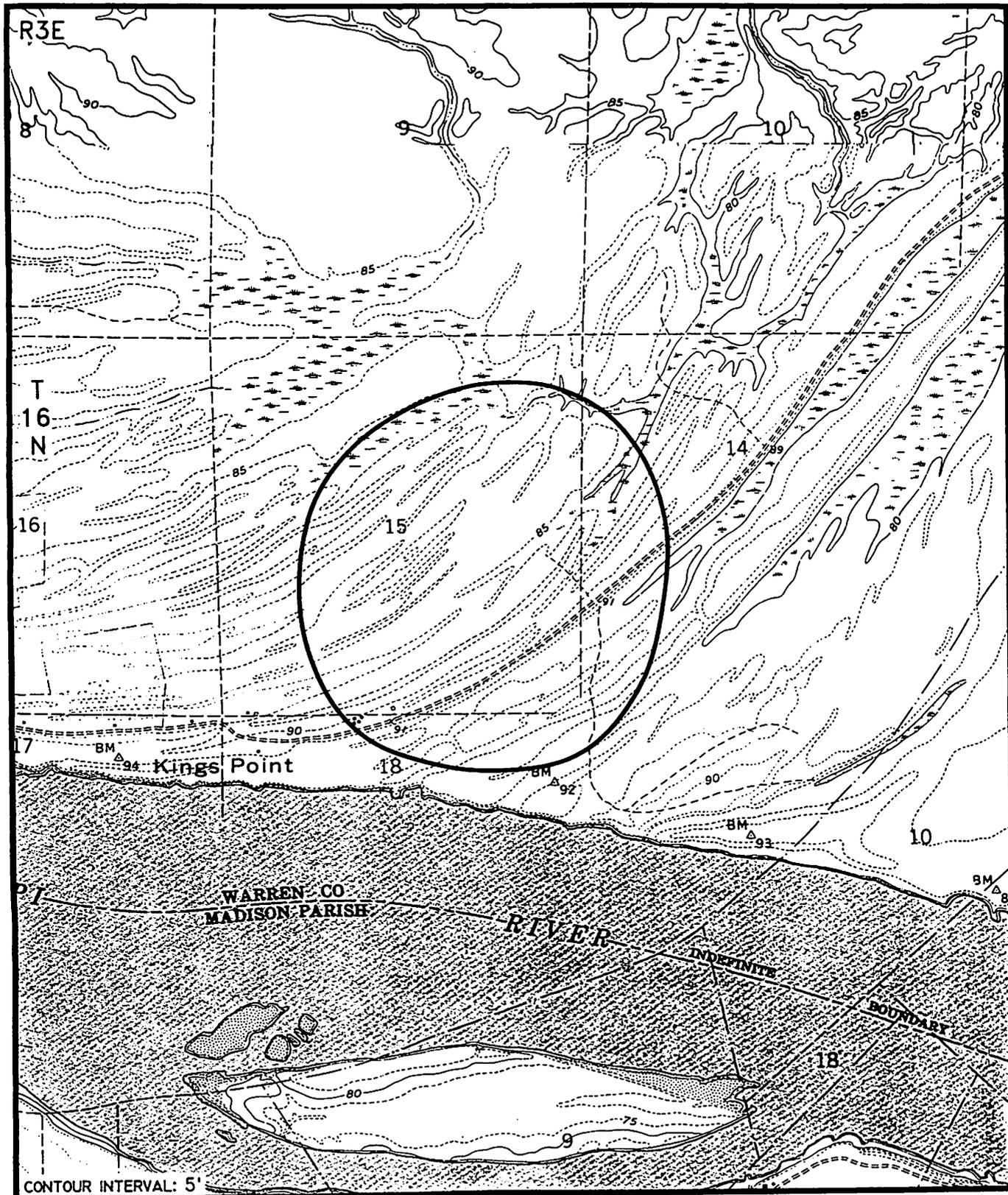
Completed: D&A 5/1990

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VICKSBURG DOME
FIGURE 151



VICKSBURG DOME

FIGURE 152

WESSON SALT DOME

GENERAL DATA

Location: Sections 34,35-T9N-R8E, Copiah County, and Section 2-T8N-R8E, Lincoln County, Mississippi

USGS topographic map(s): Stronghope, Wesson

Geophysical data: Regional Bouguer data shows a weak minimum covering less than half a township. Gravity data immediately around the dome show a weak minimum with minor relief.

Estimated size and shape: Slightly less than 1 mile in area, approximately circular

Estimated base fresh water (10,000 ppm): -3,400'

Economic use: None to date

Shallowest known cap rock: 3,394'

Shallowest known salt: Not penetrated

Oldest formation penetrated within one mile of dome: Eocene Wilcox Formation. The discovery well is the only well within 4.5 miles.

Nearest oil or gas production: Glancy Field, 7 miles north-east, produces from the Lower Cretaceous Rodessa and Hosston formations and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Sun Oil Company No. 1 H. W. McIntosh

API well number: 23-029-00049

Location: 399' W and 667' S of NE corner of SW/4 of Section 35-T9N-R8E

Elevation: 466' GL, 475' DF

Total depth: 3,551'

Reported formation tops: (scout ticket, log)

Vicksburg	1,428'
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Moodys Branch	1,915'
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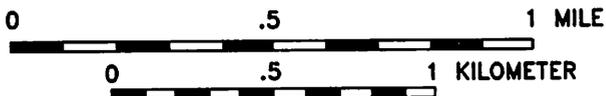
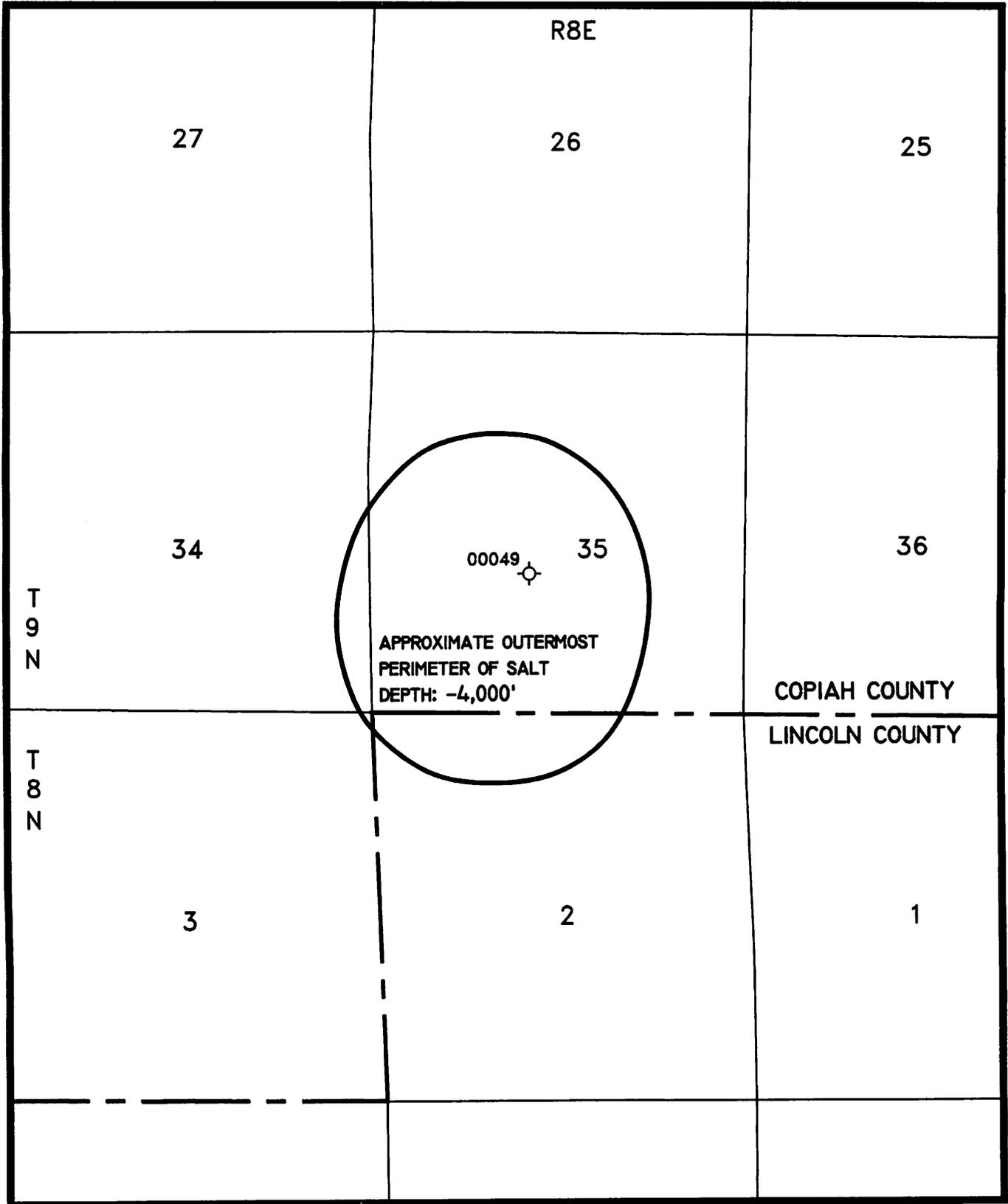
Wilcox	2,854'
--------	--------

cap rock	3,394'
----------	--------

Geophysical logs: Schlumberger Electrical Log 382'-3,409'

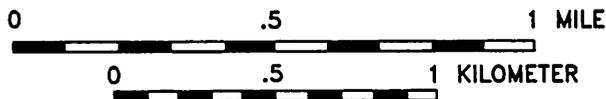
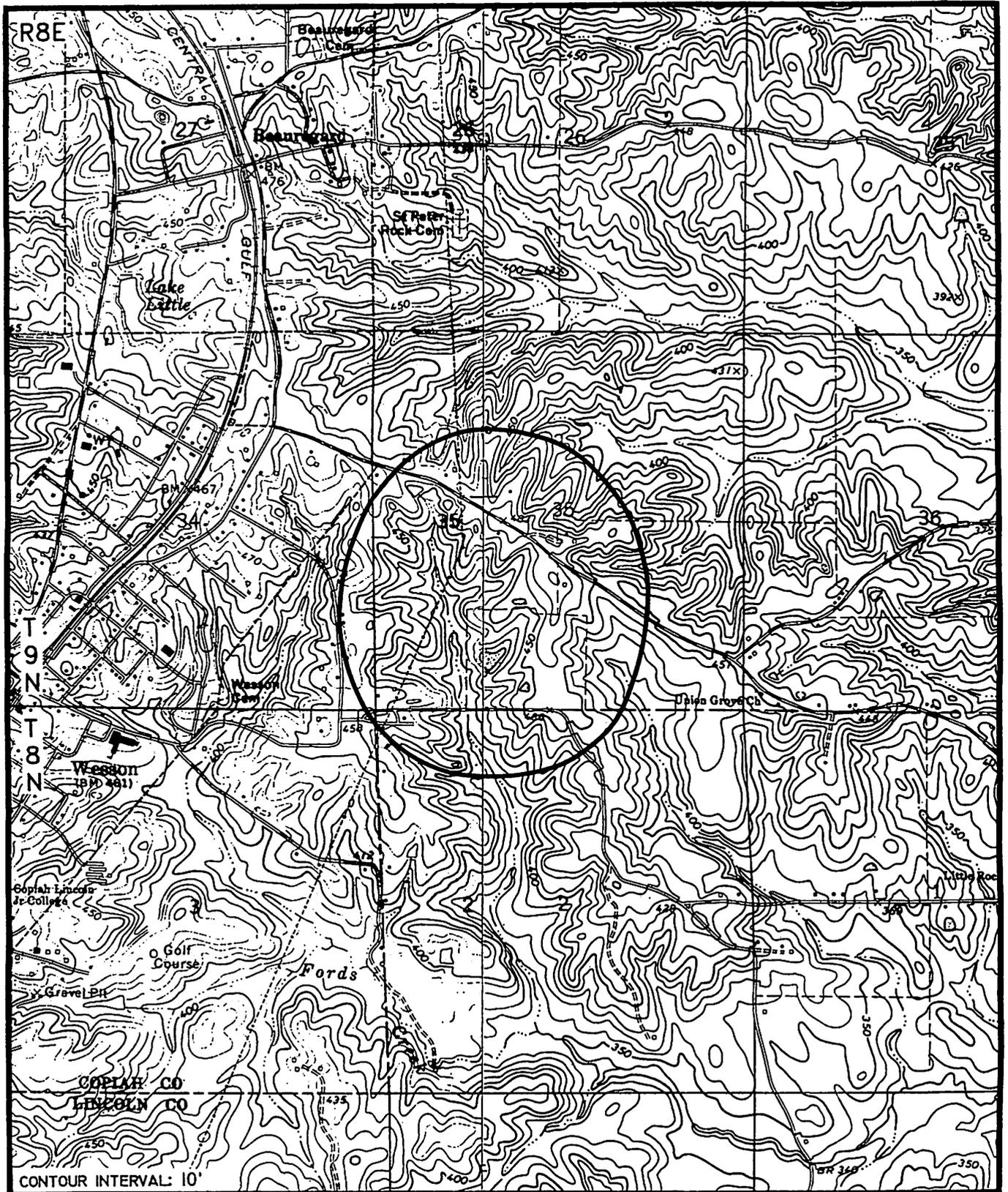
Comments: Cored 2,653'-703', recovered 30' shale; 2,817'-44', recovered 7' sand, 5.5' lime, all no show; 2,845'-75', recovered 8' shale; 2,876'-904', recovered 7' shaly sand, lime and sandy shale, all no show; 2,906'-56', recovered 22' lime, sand and shale, all no show; 2,958'-3,008', recovered 12' sand, no show; 3,396'-408', recovered 12' lime with H₂S odor, no show; 3,410'-25', recovered 15' lime, no show; 3,425'-64', recovered 39' lime with H₂S odor, no show; 3,466'-508', recovered 42' lime with H₂S odor, no show; and 3,510'-51', recovered 40' dense limestone, 0.5' limestone with salt crust, all no show. Took 18 sidewall cores 2,084'-3,392', all no show. Lost circulation at 3,551'.

Completed: D&A 2/1956



WESSON DOME

FIGURE 153



WESSON DOME

FIGURE 154

ZION HILL SALT DOME

GENERAL DATA

Location: Sections 17,18,19,20-T9N-R9E, Copiah County, Mississippi

USGS topographic map(s): Shady Grove, Stronghope

Geophysical data: Regional Bouguer data shows a small minimum centered in the eastern half of section 18.

Estimated size and shape: Less than one mile in area, approximately circular

Estimated base fresh water (10,000 ppm): -3,400'

Economic use: None to date

Shallowest known cap rock: Undrilled

Shallowest known salt: Undrilled

Oldest formation penetrated within one mile of dome: Lower Cretaceous Hosston Formation (Forest Oil Corporation, Cotton & American Natural (American Quasar Petroleum Company, Cotton & American Natural) No. 1 Beaugard (W. Smith))

Nearest oil or gas production: Glancy Field, 10 miles west, produces from the Lower Cretaceous Rodessa and Hosston formations and the Jurassic Cotton Valley Formation.

DRILLING HISTORY

Discovery well: Undrilled

Additional drilling:

Well: Forest Oil Corporation, Cotton & American Natural (American Quasar Petroleum Company, Cotton & American Natural) No. 1 Beaugard (W. Smith)

API well number: 23-029-20016

Location: 2,600' FNL and 1,500' FWL of Section 7-T9N-R9E

Elevation: 300' GL, 331' DF

Total depth: 17,160'

Reported formation tops: (scout ticket)

chalk	8,060'
Lower Tuscaloosa	10,280'
base Ferry Lake anhydrite	14,765'
Hosston	15,835'

Geophysical logs: Schlumberger DIL-Sonic log 3,165'-17,154', Saraband 14,850'-16,925', Compensated Neutron-Formation Density 14,850'-16,958'

Comments: Forest Oil Corporation assumed operations at casing point and set 5.5" casing at 17,086'. Perforations 16,838'-44' flowed 1.25-1.5 barrels load water on open choke with tubing pressure 0#; swabbed oil at the rate of 1,032 barrels per day, 47° gravity; and tested an unestimated amount of oil and salt water. Perforations 16,135'-52' were acidized and tested with no details released. Perforations 15,835'-65' were acidized and tested gas, water and condensate.

Completed: D&A 2/1979

Well: George C. Koch No. 1 W. W. Broome

API well number: 23-029-00065

Location: 153' FSL and 153' FWL of SW/4 of SE/4 of Section 1-T9N-R8E

Elevation: 317' GL (topographic map), 343' DF ?

Total depth: 3,628'

Reported formation tops: (scout ticket, Union Producing Company- probably sample tops)

Vicksburg	1,134'-56'
Moody's Branch	1,728'-50'
Cook Mountain	2,148'-70'
Cane River	3,025'
Tallahatta	3,370'

Geophysical logs:

Comments: Cored 3,244'-62', recovered 8' green? fine grained sand and dark brown shale. Stuck drill stem at 1,200' while at total depth 3,629'.

Completed: D&A 9/1940

Well: Ze-Nae Oil Corporation (George C. Koch) No. 1 W. W. Broome

API well number: 23-029-00065

Location: 153' FSL and 153' FWL of SW/4 of SE/4 of Section 1-T9N-R8E

Elevation: 317' GL (topographic map), 343' DF ?

Total depth: 2,888'

Reported formation tops:

Geophysical logs: Ran Schlumberger from 59'-2,888'. Scout ticket also says running Halliburton "Jeep" log, but gives no interval.

Comments: Old well drilled deeper (OWDD). Formerly operated by George C. Koch. Corrected former TD of 3,628' to 3,645'. Set whipstock at 1,845' and sidetracked. Cored 2,838'-55', recovered 6' (also called false core on scout ticket). Final scout ticket entry recorded moving in heavy rig.

Completed: D&A 2/1942

Well: Koch & Vasser Drilling Company No. 1 W. W. Broome

API well number: 23-029-00025

Location: 330' S and 330' E of NW corner of NW/4 of NE/4 of Section 12-T9N-R8E

Elevation: 315' GL (topographic map), 323' DF

Total depth: 6,710'

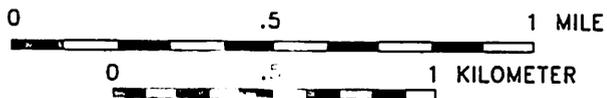
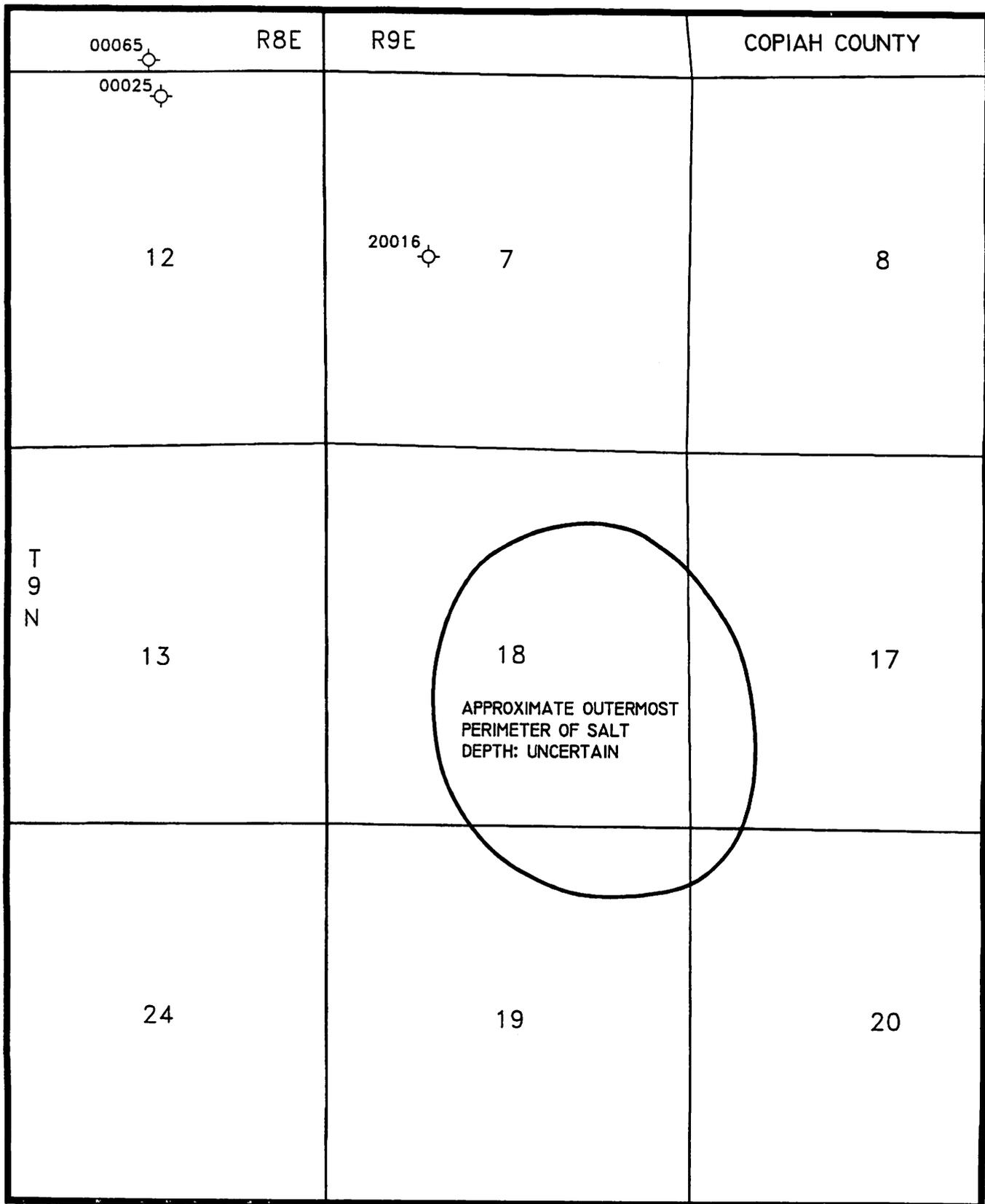
Reported formation tops: (log-scout ticket)

Moody's Branch	1,870'
Cockfield	1,898'
Sparta	2,350'
Wilcox	3,754'
base big shale	5,306'
base baker shale	5,711'

Geophysical logs: Schlumberger Electrical Log 556'-6,709'

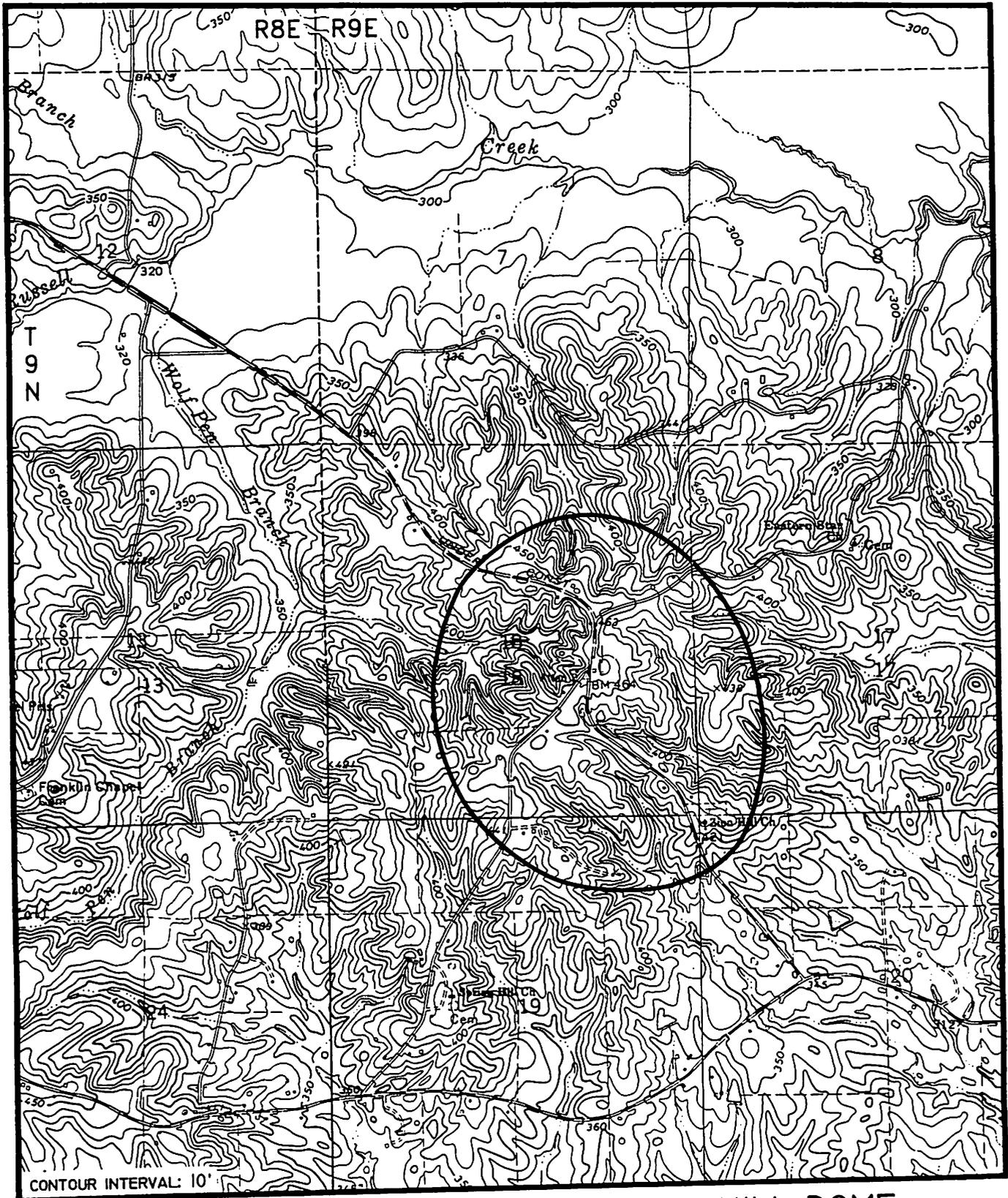
Comments: Took 25 sidewall cores 2,784'-6,629', all no show.

Completed: D&A 11/1952

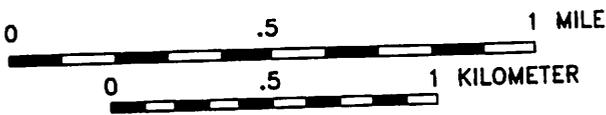


ZION HILL DOME

FIGURE 155



CONTOUR INTERVAL: 10'



ZION HILL DOME

FIGURE 156

COMBINED REFERENCES

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APPENDIX
Abbreviations and acronyms

AL/C	possibly early (Pan Geo) Atlas Acoustilog/Caliper	HDT	High Resolution Dipmeter Tool
BC	barrels of condensate	IES	Induction Electrical Survey
BCFG	billion cubic feet of gas	ISF	Induction Spherically Focused
BCPD	barrels of condensate per day	LDT	LithoDensity Tool
BHC	borehole compensated	LDT/CNL	LithoDensity Tool/Compensated Neutron Log
BHP	bottom hole pressure	LS	Long Spaced
BO	barrels of oil	MCFGPD	thousand cubic feet of gas per day
BOPD	barrels of oil per day	ML	Microlog
BSWPD	barrels of salt water per day	MSFL	MicroSpherically Focused Log
BW	barrels of water	PD	per day
BWPD	barrels of water per day	por	porosity
CBL	Cement Bond Log	Prox/Log	Proximity Log
CDL	Compensated Density Log	RA	(at) right angle(s) (to)
CDR	Unknown	rec	recovered
CFGPD	Cubic feet of gas per day	RFT	Repeat Formation Test
CNL	Compensated Neutron Log	SEG	possibly Sonic Electric log Gamma ray
CP	casing pressure	SFL	Spherically Focused Laterolog
csg	casing	SHDT	Stratigraphic High Resolution Dipmeter Tool
DIL	Dual Induction Laterolog	SITP	shut in tubing pressure
DLT	Dual Laterolog (Tool)	sli	slightly
DSN	Dual Spaced Neutron	ST	Sidewall core Tool
DST	drillstem test	STH	sidetrack hole
EPT	Electromagnetic Propagation Tool	SWN	Side Wall Neutron
FDC/CNL	Formation Density Compensated/Compensated Neutron Log	T/A or TA	temporarily abandoned
FTP	flowing tubing pressure	TP	tubing pressure
GCR	gas condensate ratio	TVD	true vertical depth
GOR	gas oil ratio	VSP	Vertical Seismic Profile
GR	Gamma Ray	WF/DIG	probably early (Pan Geo) Atlas diplog
HDD(T)	High Density Dipmeter Tool	#	pounds (of pressure)

